CR-IR346RU Service Manual

Installation (IN) (Philips Medical Systems 01.1)

CR-IR346RU Service Manual – Contents

Installation (IN)

1. Specifications of Machine IN-2
2. Installation Work Flowchart IN-4
3. Preparation for Installation IN-6
   - 3.1 Precautions Regarding Installation IN-6
   - 3.2 Unloading IN-7
   - 3.3 Transfer IN-11
   - 3.4 Temporary Placement IN-12
   - 3.5 Checking the Items Supplied IN-13
4. Installation Procedures IN-15
   - 4.1 Removing the Machine-Wrapping Packing Materials IN-15
   - 4.2 Removing the Light Protect Plates IN-16
   - 4.3 Repositioning the Retaining Members IN-17
5. Installing the Options IN-18
   - 5.1 Assembling the Table IN-18
6. Setting the CPU12A Board IN-22
7. Connecting the Cables IN-24
   - 7.1 Connecting the Power Cable and Checking Resistance Value IN-24
   - 7.2 Connecting the Interface Cable IN-25
     - 7.2.1 Direct Connection of the CL/RU IN-26
     - 7.2.2 Network Connection IN-27
8. Installing the Cover IN-28
9. CL Installation Procedures IN-28
10. Final Placement IN-29
    - 10.1 Securing the Machine with the Adjustable Feet IN-29
    - 10.2 Securing the Machine with the Retainers IN-30
    - 10.3 Securing the Table and Machine Together IN-32
    - 10.4 Securing the Machine with the Retainers and Table IN-33
11. Powering ON the CL/RU IN-36
12. Image/Conveyance Checks IN-37
    - 12.1 Conveyance Checks IN-38
    - 12.2 Image Checks IN-38
13. Powering OFF the CL/RU IN-39
14. Cleaning the CL/RU IN-39
15. Attaching the Cassette Handling Precaution Label IN-40

Control Sheet

Issue date	Revision number	Reason	Pages affected
10/10/2000	00	New release (FM2887)	All pages
08/30/2001	01	Support for software version A05 (FM3058)	IN-5, 6, 12–14, 17–19, 21.1–21.2, 23, 24–29, 31–35, 38

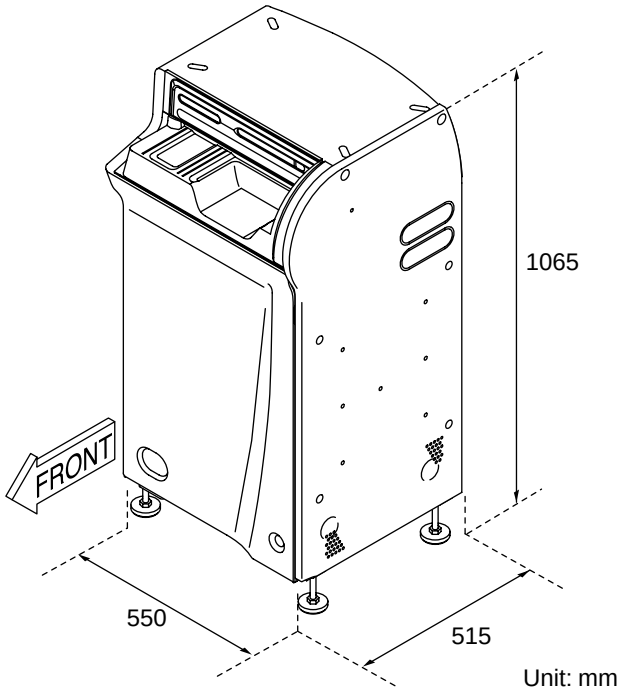
1. Specifications of Machine

■ Product Code

CR-IR346RU

■ Dimensions

W550 x D515 x H1065 (mm)



■ Weight

155 kg approx.

■ Means for Moving and Fixing the Machine

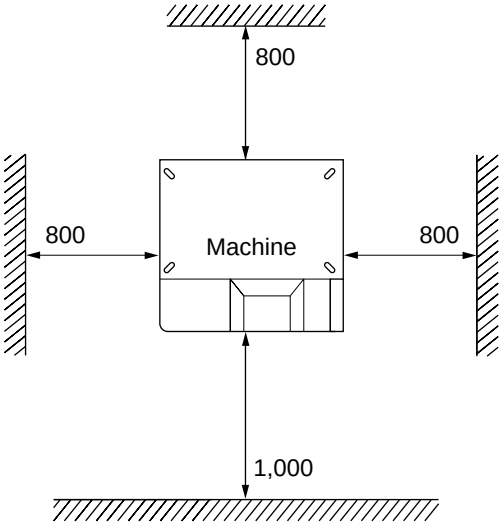
- Moving : Double-wheel caster (variable-direction/no-brake) x4
- Fixing : • Adjustable foot x4
  - • Machine retainer x2
  - • Table x1 (optional)
  - • Table x1 and table retainer x2 (optional)

■ Installation Space

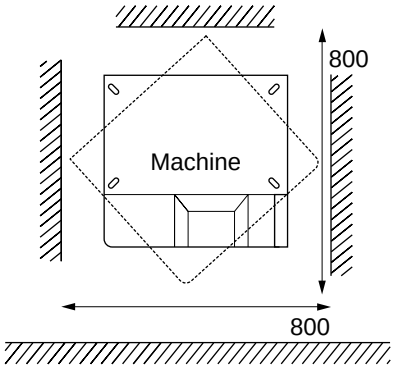
◇ *REFERENCE* ◇

The machine may be installed with its left/right sides and its rear adjacent to the wall. Note, however, that adequate space around the machine should be required so that the distance from its front to the wall is 1,000 mm or greater and there is enough room to allow the machine to rotate.

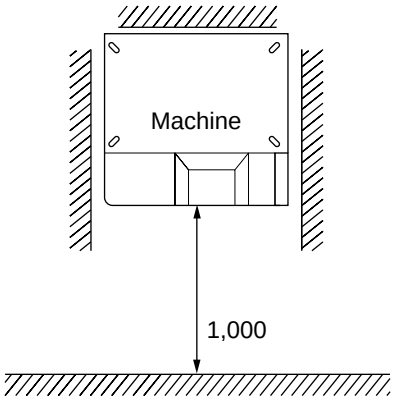
● Space required for servicing



● Space required for rotation

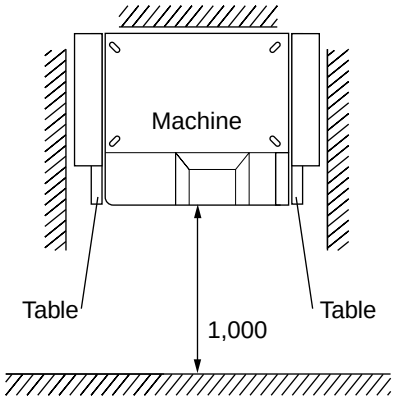


● Minimum space for installation



❊ : Make sure that servicing space is secured.

● Minimum space for table (full option) installation



❊ : Make sure that servicing space is secured.

Unit: mm

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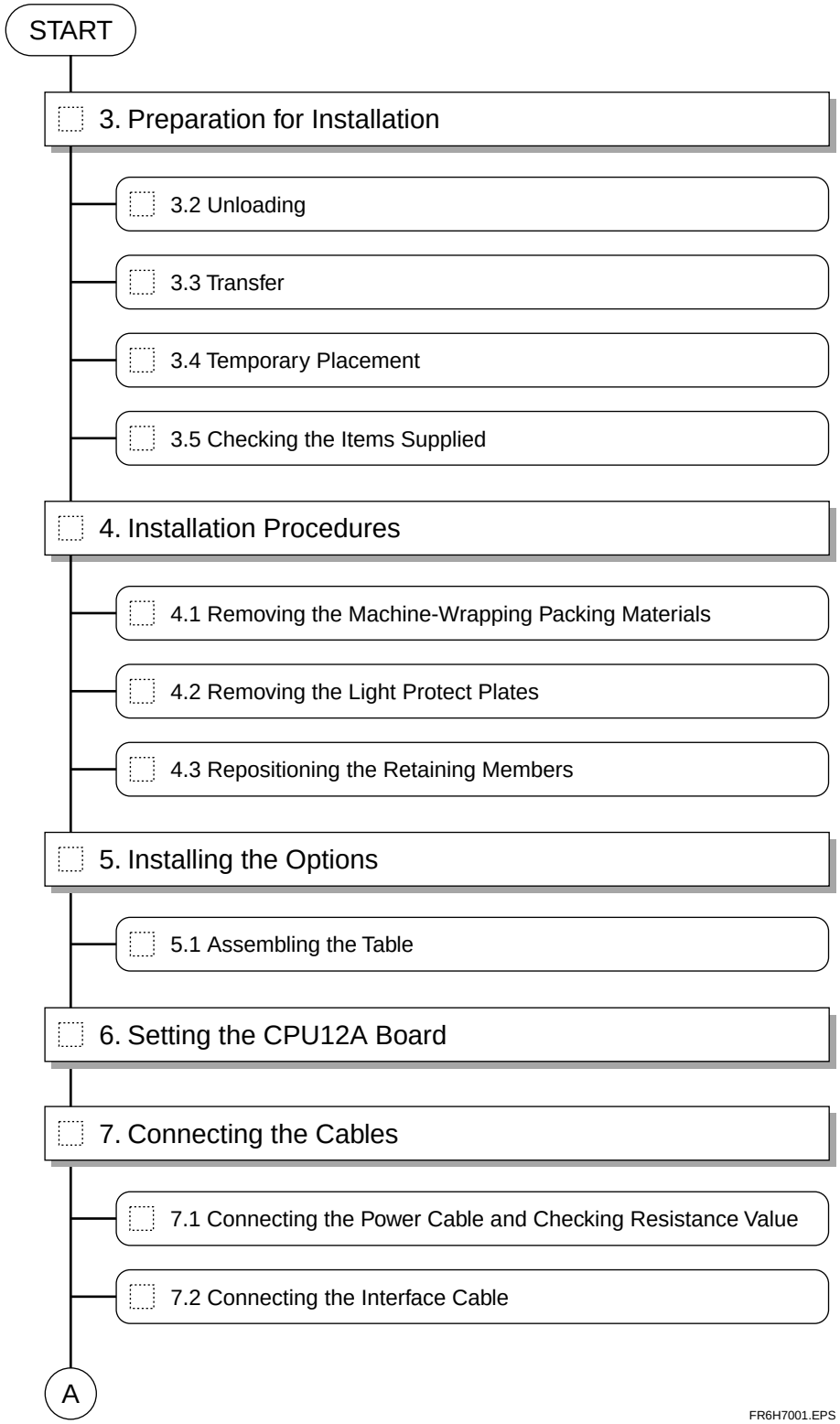
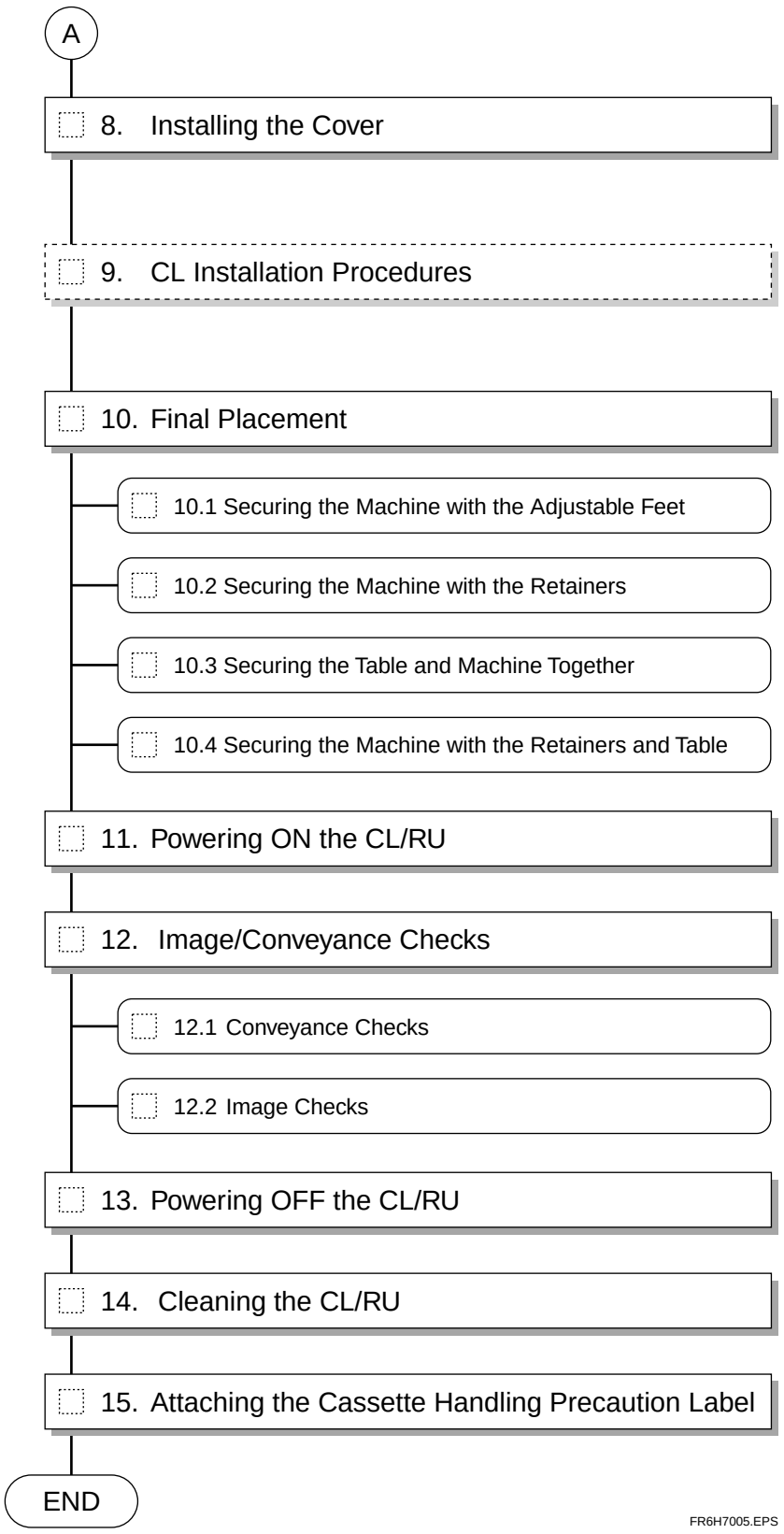
2. Installation Work Flowchart




A
8. Installing the Cover
9. CL Installation Procedures
☞ CL Service Manual
"A. Installation/Chapters 3-7"
10. Final Placement
10.1 Securing the Machine with the Adjustable Feet
10.2 Securing the Machine with the Retainers
10.3 Securing the Table and Machine Together
10.4 Securing the Machine with the Retainers and Table
11. Powering ON the CL/RU
12. Image/Conveyance Checks
12.1 Conveyance Checks
12.2 Image Checks
13. Powering OFF the CL/RU
14. Cleaning the CL/RU
15. Attaching the Cassette Handling Precaution Label
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3. Preparation for Installation

3.1 Precautions Regarding Installation

The place where the machine is to be installed needs to meet the criteria set forth in “Getting Started” and “■ Installation Site Requirements”.

Preinstallation procedures should be performed beforehand for necessary construction work, electrical work, and air-conditioning system installation.

■ Installation Site Requirements

Avoid the following installation sites:

- Places where the temperature changes drastically.
- Places near heat sources such as heaters.
- Places where water leakage or equipment submersion may occur.
- Places where corrosive gas may be generated.
- Dusty places.
- Places where the machine is subject to constant or excessive vibration or shock.
- Places that are exposed to direct sunlight.

■ Handling Precautions for Printed Circuit Boards and Optical Unit

When servicing a board or optical unit, use a wristband to ground your body. If you body is not grounded, the electrostatic buildup on your body may damage the electronic parts.

3.2 Unloading

CAUTION

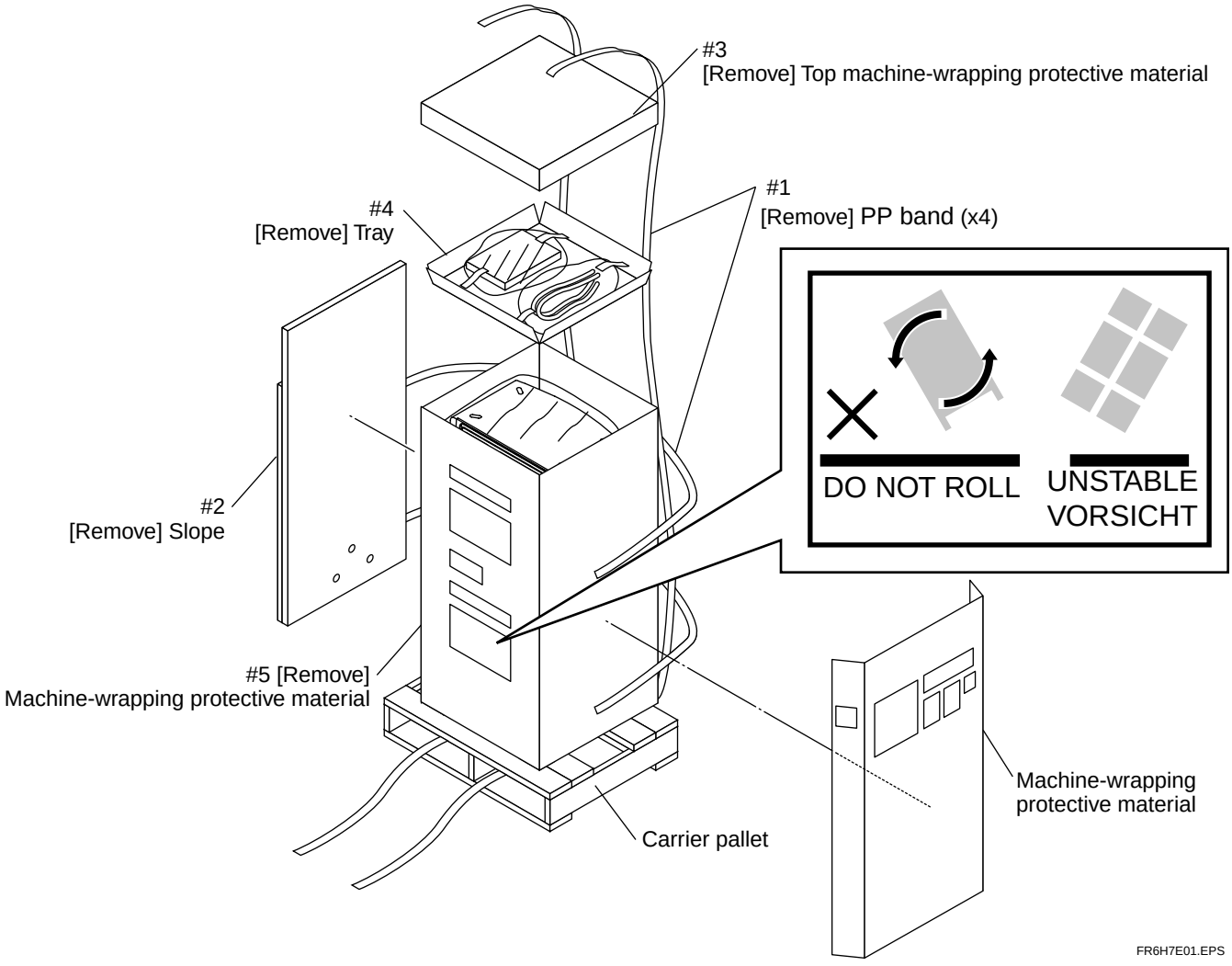
When unloading or transferring the machine, use care not to incline the machine.
Because the machine is not fixed to the carrier pallet, the machine may topple down.

◆ *NOTE* ◆

Before unloading the machine, secure a proper machine transfer route.

(1) Move down the machine together with the carrier pallet from the load-carrying platform of the truck.

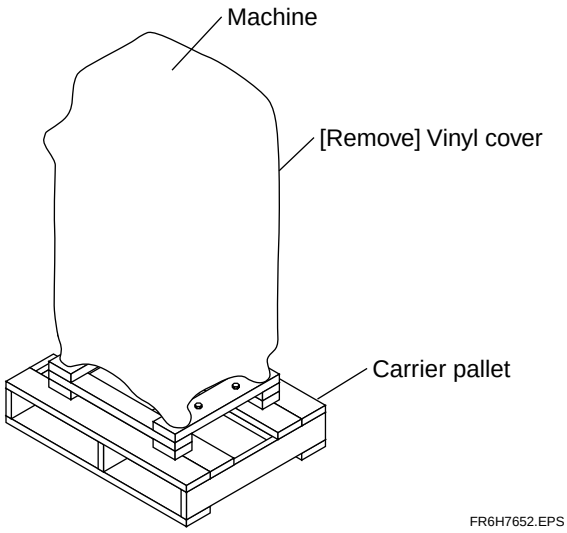
(2) Remove the machine-wrapping protective material (reinforced corrugated board).



◆ *INSTRUCTION* ◆

During the winter season, allow the machine to stand under its packaged condition for sufficient time before unpacking it.
If the machine is unpacked immediately after it is carried into the room, moisture condensation may occur on the machine.

(3) Remove the vinyl cover.

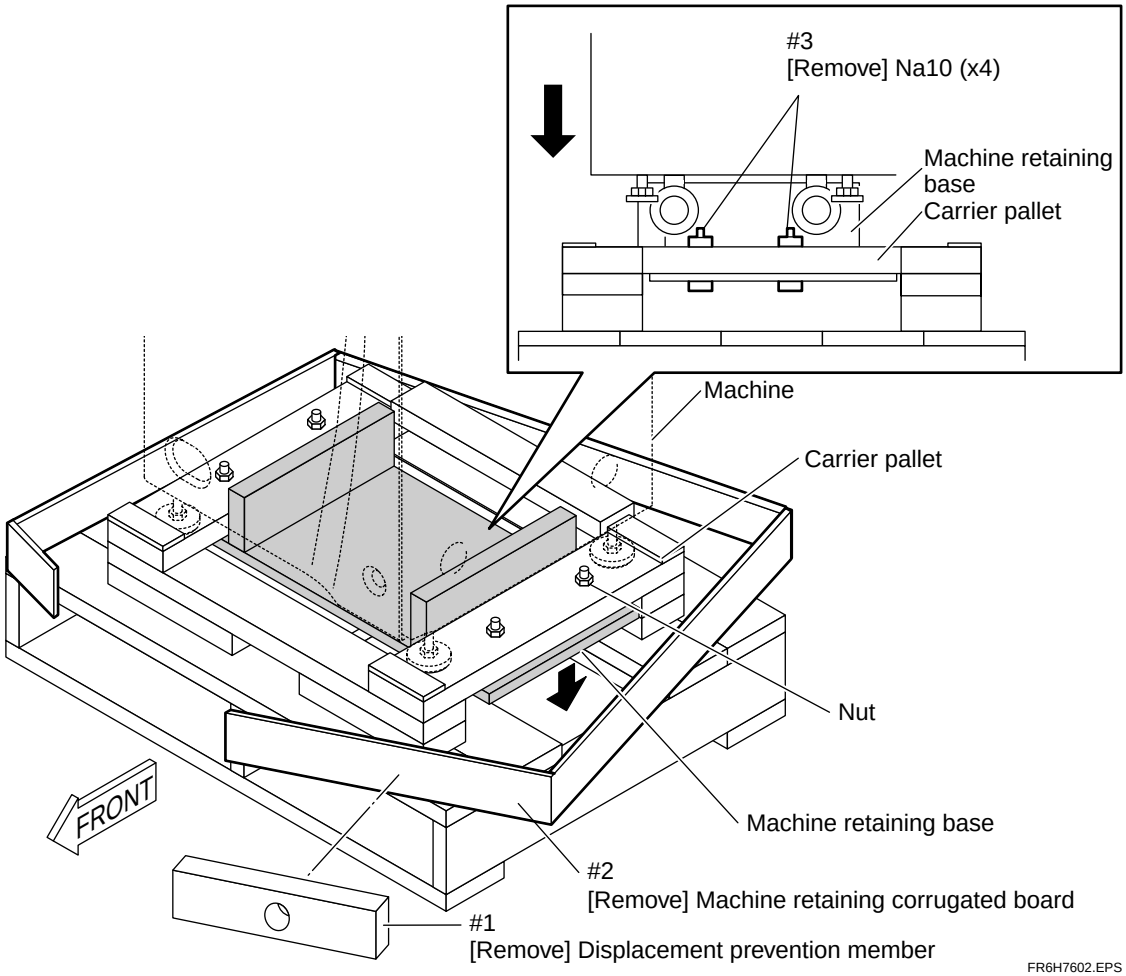


CAUTION

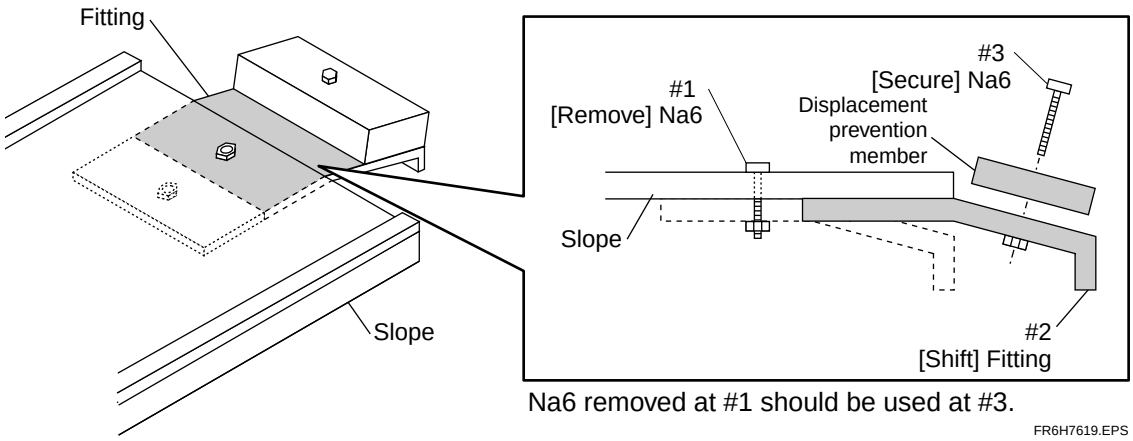
To remove the four nuts that secure the machine retaining base and carrier pallet, loosen the four nuts evenly one by one, and then remove them.

(4) Lower the machine onto the carrier pallet.

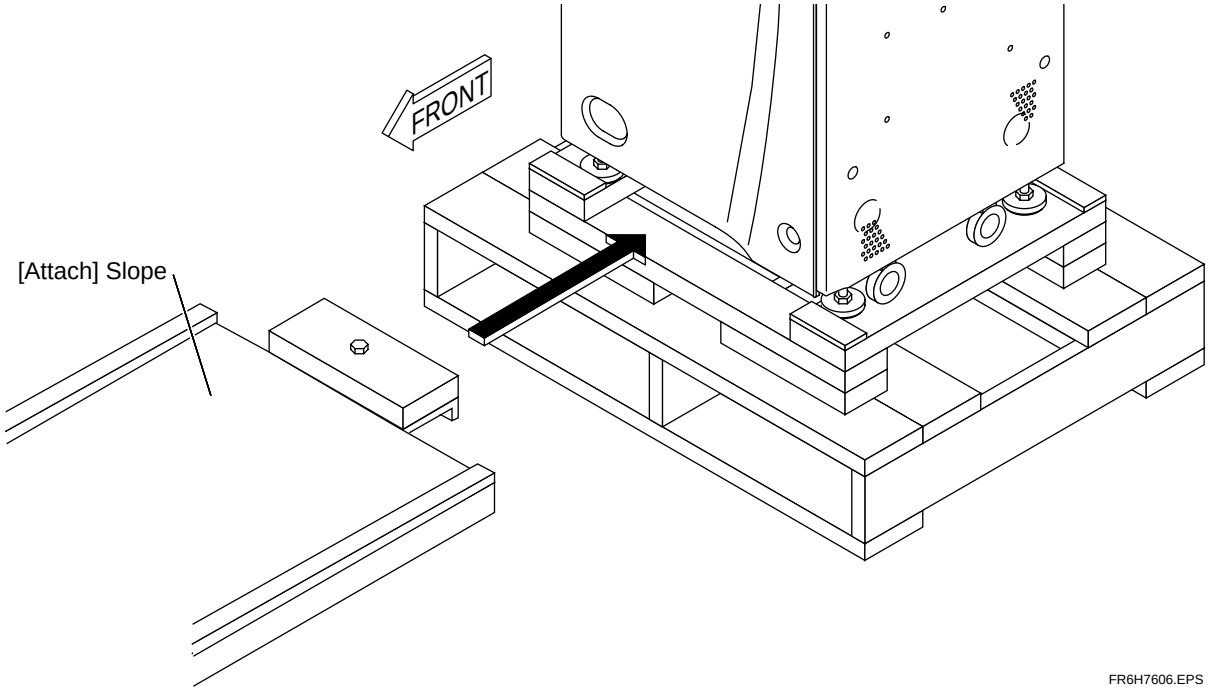
As the four nuts are loosened, the machine retaining base is lowered, so that the machine rests down on the carrier pallet.



(5) Attach the displacement prevention member.



(6) Slide the position of the fitting of the slope.



◇ ***REFERENCE*** ◇

The slope may be attached only to the front side of the machine.

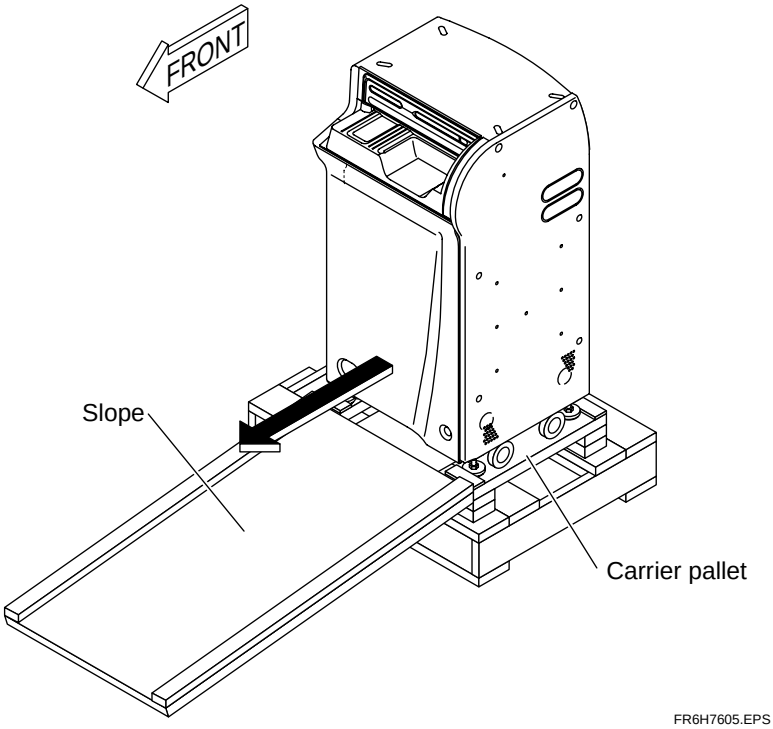
WARNING

When unloading the machine from the carrier pallet, two persons should cooperate to do so using care to prevent it from toppling down.
In this case, the two persons should be positioned, one at the right-hand side and the other at the left-hand side of the machine.

◆ ***NOTE*** ◆

The adjustable feet should be raised all the way up to their upper limit.

(7) Lower the machine from the carrier pallet.



3.3 Transfer

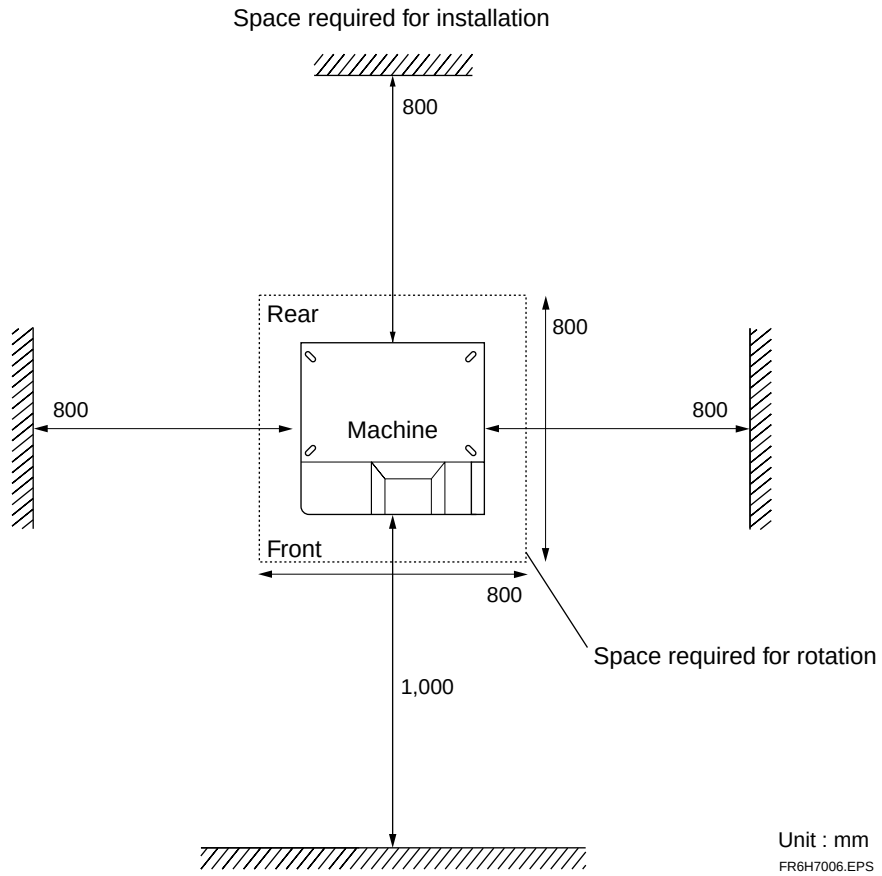
CAUTIONS

- *When transferring the machine by use of its casters, raise the adjustable feet of the machine all the way up to their upper limit.*
- *When bringing the machine into the installation place, support it so that it will not topple down.*
- *When the machine should be moved over some step or bump, move it as slowly as possible to avoid shock to it. Note that the step over which the machine may move is about 10 mm high at most.*

(1) Transfer the machine into the installation place.

3.4 Temporary Placement

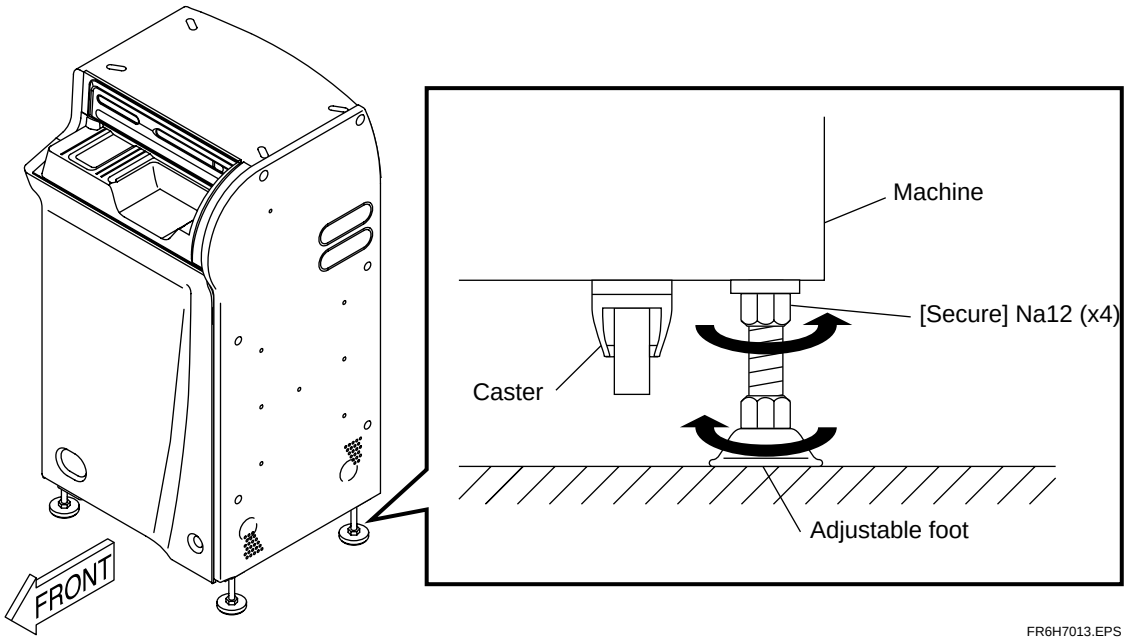
(1) Secure space required for installation procedures and temporarily place the machine.



◇ ***REFERENCE*** ◇

When there is enough space (800 mm around the machine) to allow the machine to rotate, installation procedures may be performed only if 1,000 mm or greater in space is secured on one side of the machine.

(2) Secure the machine with the adjustable feet in place.



3.5 Checking the Items Supplied

Check whether all the items are supplied in accordance with the PACKING LIST that is contained in each carton.

◆ ***NOTE*** ◆

The Test Result Sheet contained should be kept by the service person.

■ Machine Main Body

Check	Item	Qty.	Remarks
	Machine main body	1	

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■ Accessories

[Specifications for use in Japan]

Check	Item	Qty.	Remarks
	Instruction Manual	1	
	Test Result Sheet	1	
	Warranty Sheet	1	
	Machine-specific data floppy diskette	1	3.5-inch/1.44 MB
	CD-ROM (for RU)	1	For backup (Installed prior to shipment)
	Label	1	One set (RU exposure marker caution label)
		1	One set (Inch/metric label)
	Fuse set	1	Spare
	Ferrite bead	1	E04SR301334
	CL/RU connection cable	1	Used only for direct connection without hub Category 5 cable (cross, UTP type), 1.95 m
	RU power cable	1	100-120V

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[Specifications for use outside Japan]

Check	Item	Qty.	Remarks
	Instruction Manual	1	
	Test Result Sheet	1	
	Machine-specific data floppy diskette	1	3.5-inch/1.44 MB
	CD-ROM (for RU)	1	For backup (Installed prior to shipment)
	Label	1	One set (RU exposure marker caution label)
		1	One set (Inch/metric label)
	Fuse set	1	Spare
	Ferrite bead	1	E04SR301334
	CL/RU connection cable	1	Used only for direct connection without hub Category 5 cable (cross, UTP type), 1.95 m

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■ Optional Items

[Specification for use in Japan]

Check	Item	Qty.	Remarks
	Retainer	1	For retaining the machine

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[Specifications for use outside Japan]

Check	Item	Qty.	Remarks
	Retainer	1	For retaining the machine
	RU power cable	1	• 100-120 V: U.S., Canada, etc. • 200-230 V: Germany, France, Spain, Sweden, etc. • 240 V: U.K.

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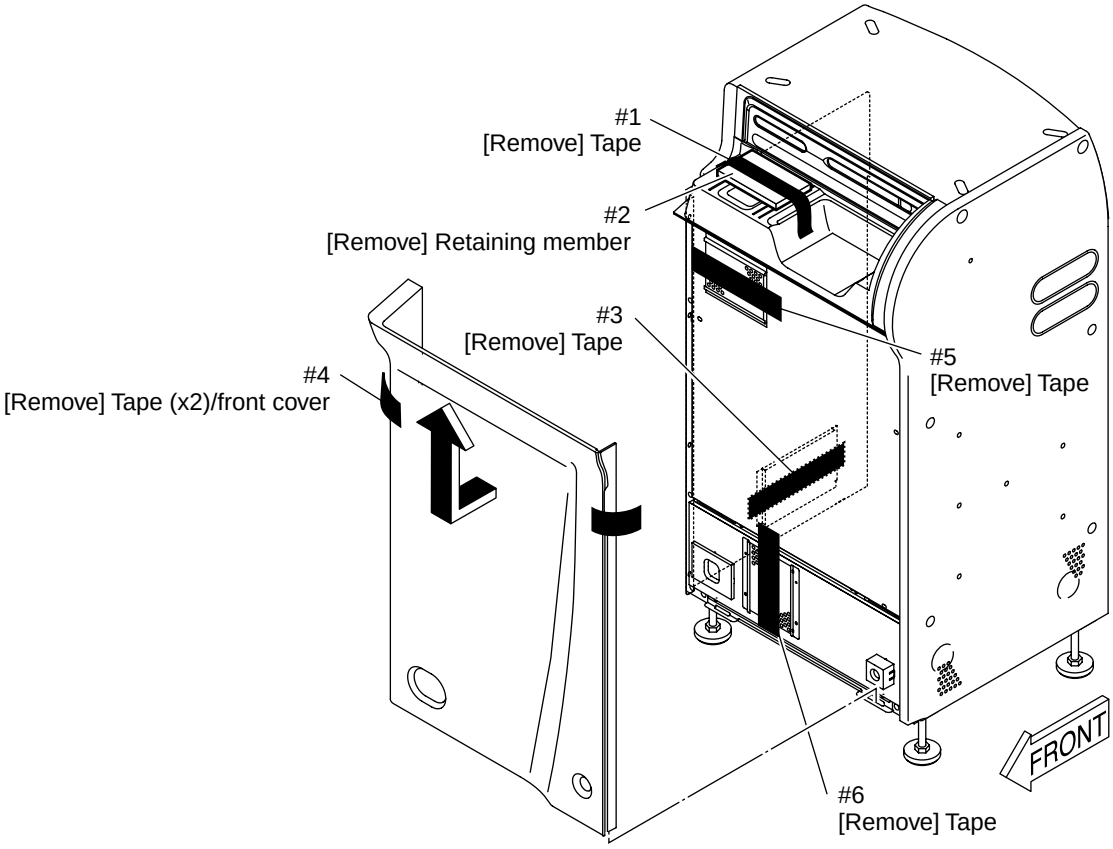
4. Installation Procedures

4.1 Removing the Machine-Wrapping Packing Materials

(1) Remove the packing materials.



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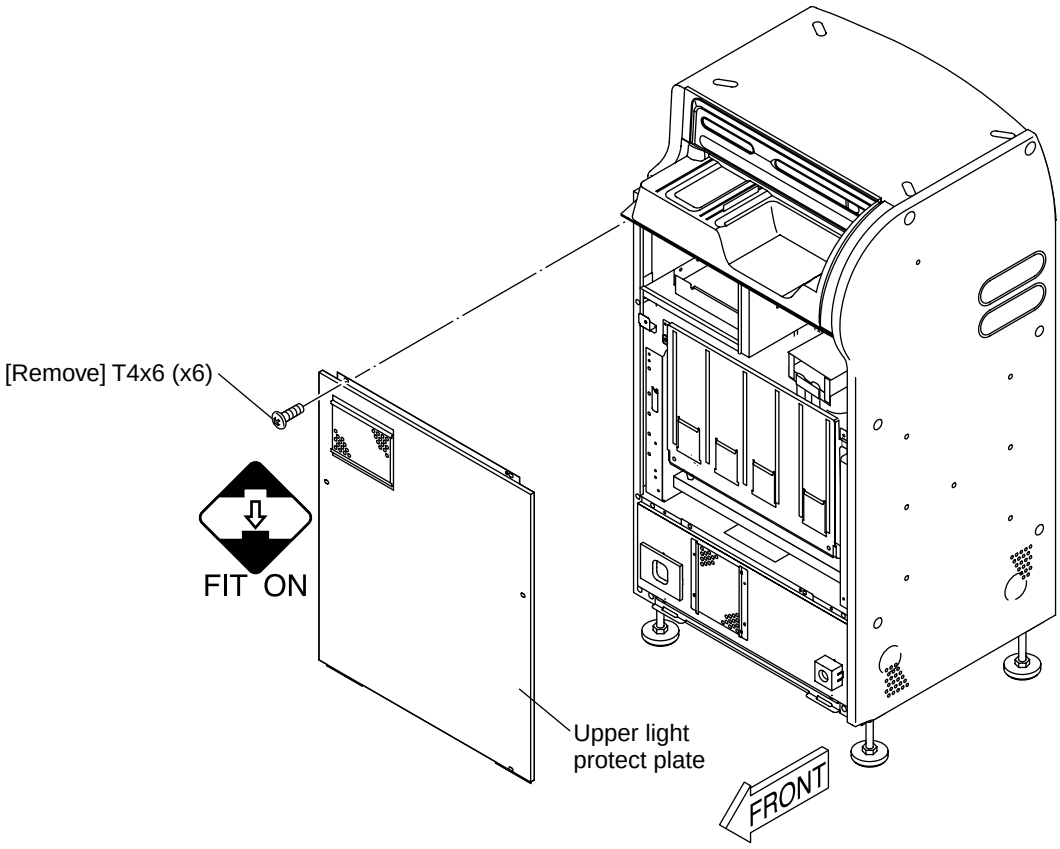
4.2 Removing the Light Protect Plates

(1) Remove the light protect plates.



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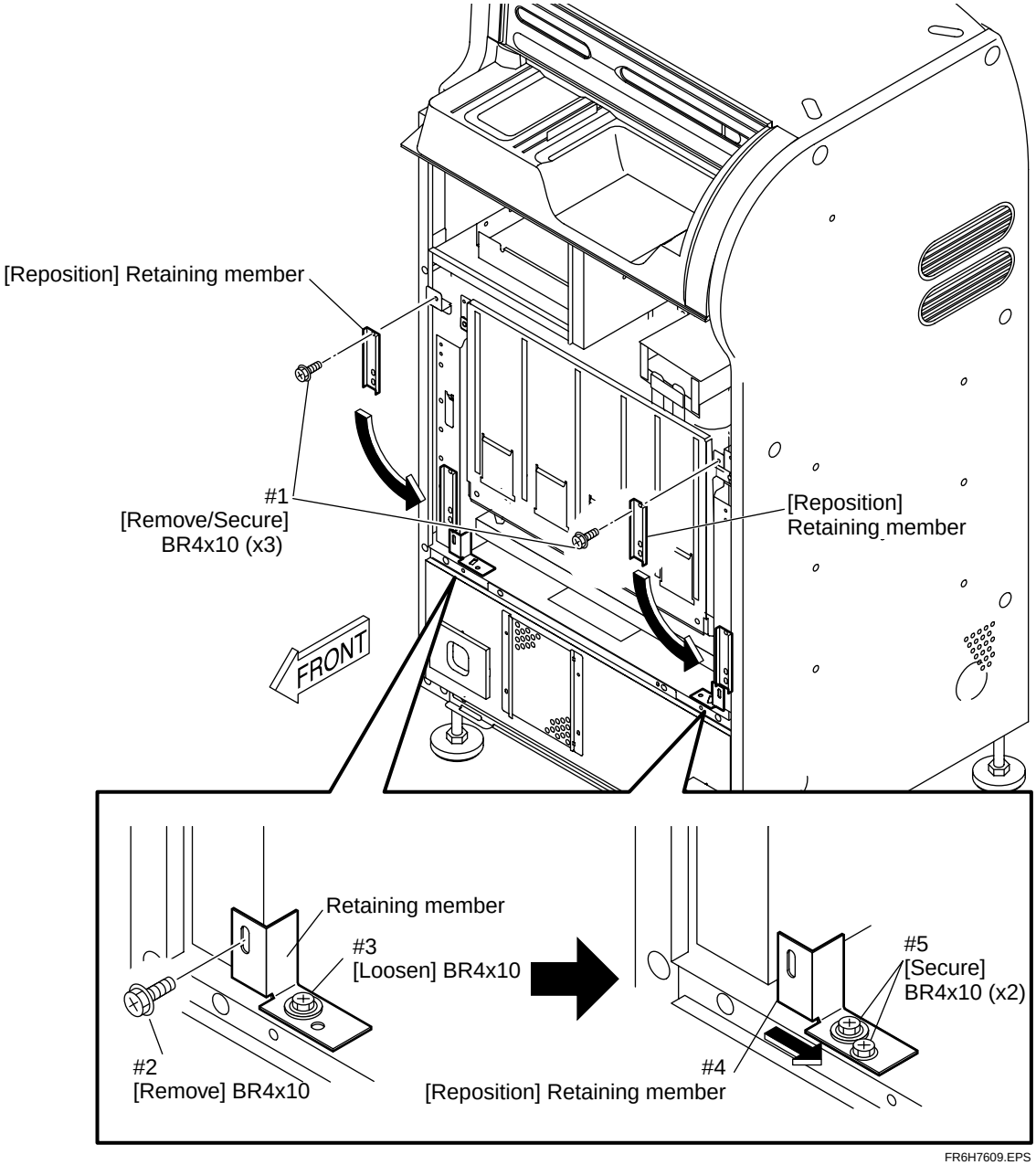
4.3 Repositioning the Retaining Members

◇ ***REFERENCE*** ◇

The retaining members may be removed along the rope.

(1) Reposition the retaining members.



◇ ***REFERENCE*** ◇

One screw for each of the right and left retaining members removed at step #2 should be used at step #5.

(2) Attach the upper light protect plate.

☞ "4.2 Removing the Light Protect Plates"

5. Installing the Options

5.1 Assembling the Table

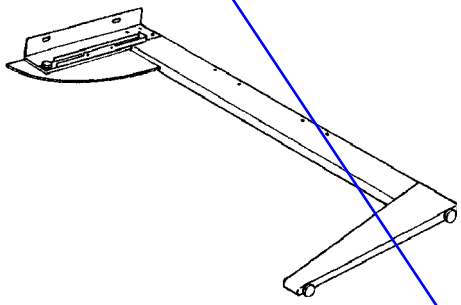
■ Composition of Optional Parts

◇ ***REFERENCES*** ◇

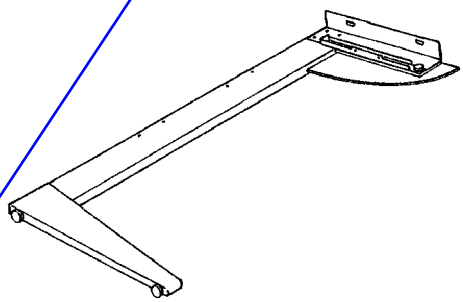
- *Those shown in illustration Nos. 12 and 15 are used for installation with the table. "10.3 Securing the Table and Machine Together"*
- *Those shown in illustration Nos. 12-17 are used for table installation. "10.4 Securing the Machine with the Retainers and Table"*

● Parts used to assemble the table

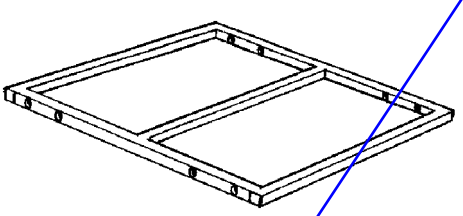
1. Pillar (left)



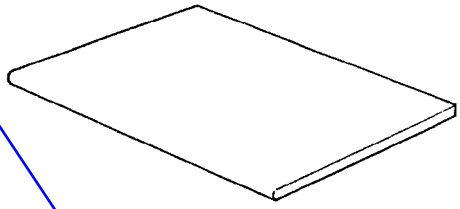
2. Pillar (right)



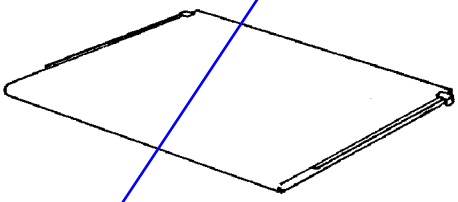
3. Rear pipe



4. Top plate



5. Shelf



6. Bracket

7. T6x35 (x8)

8. T6x12 (x4)

9. T4x6 (x4)

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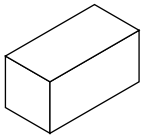
10. Shock absorbing material (x2)



11. Cover (x10)

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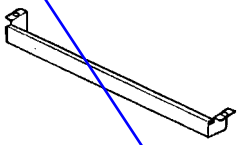
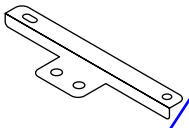
● Parts used to secure the machine

12. Bracket



13. Retainer (x2)



14. Na12 (x4)

15. T6x12 (x2)

16. Bolt 12x20 (x4), W12 (x4)

17. Bolt 10x20 (x4)

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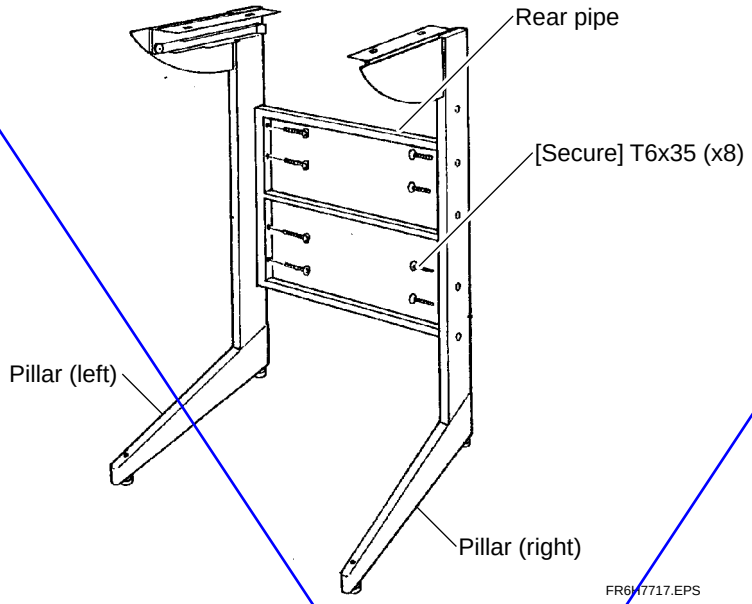
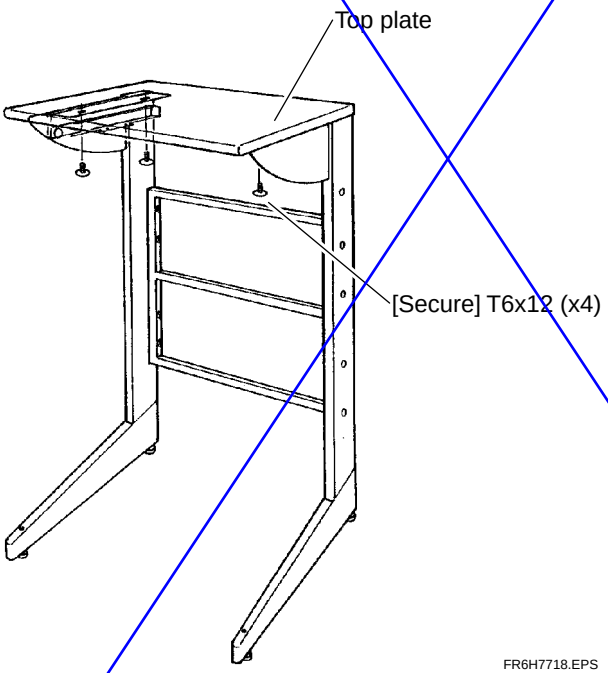
■ Assembly Procedures

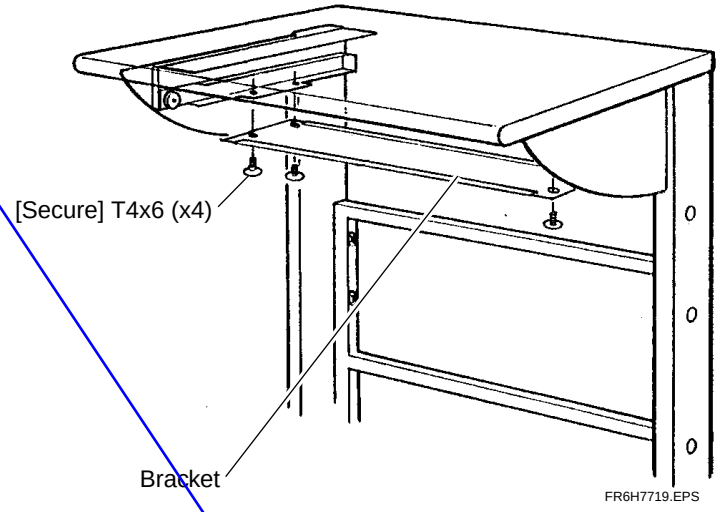
(1) Attach the rear pipe.



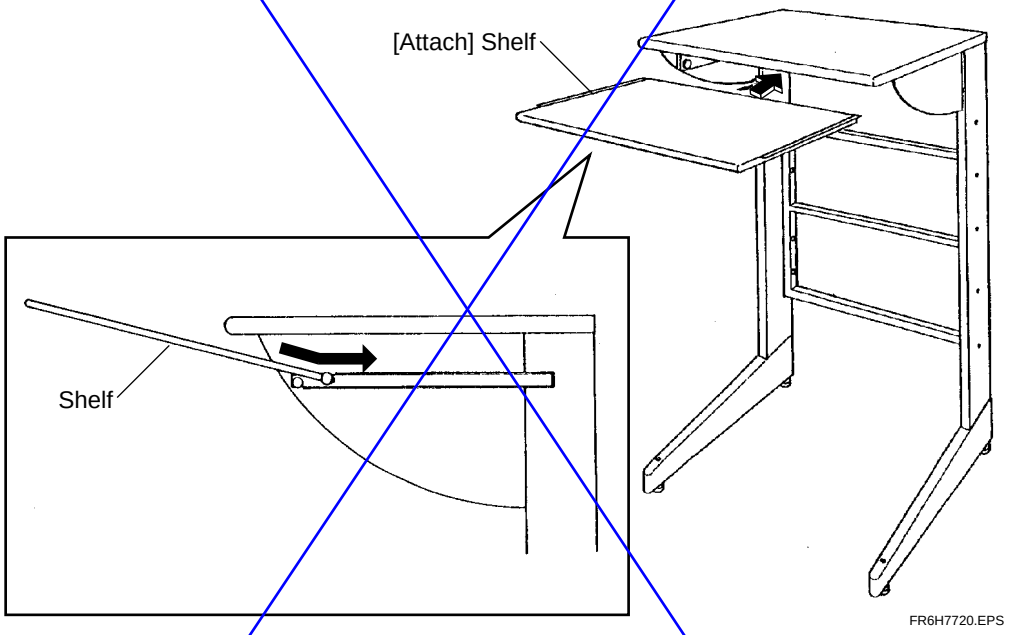
(2) Attach the top plate.



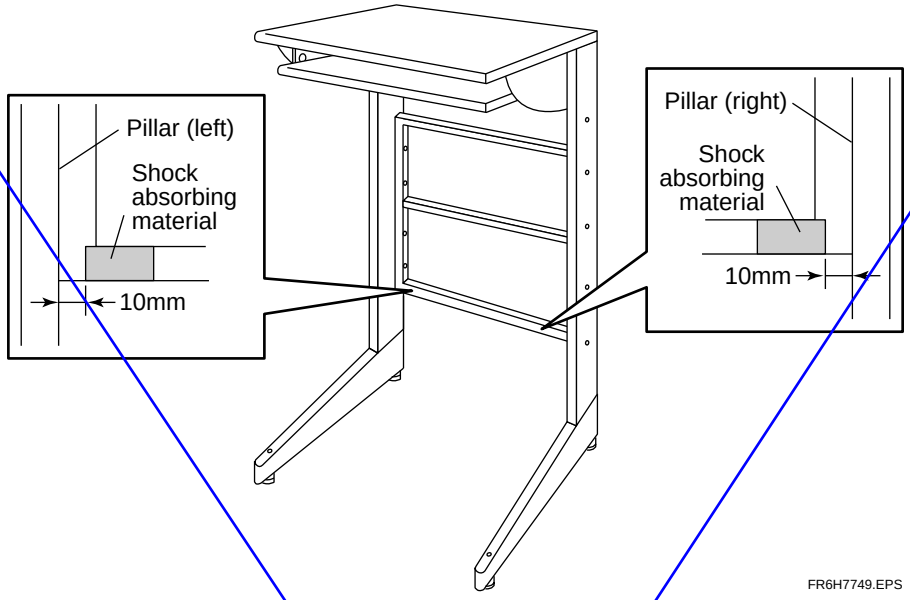
(3) Attach the bracket.



(4) Attach the shelf.



(6) Attach the shock absorbing materials.



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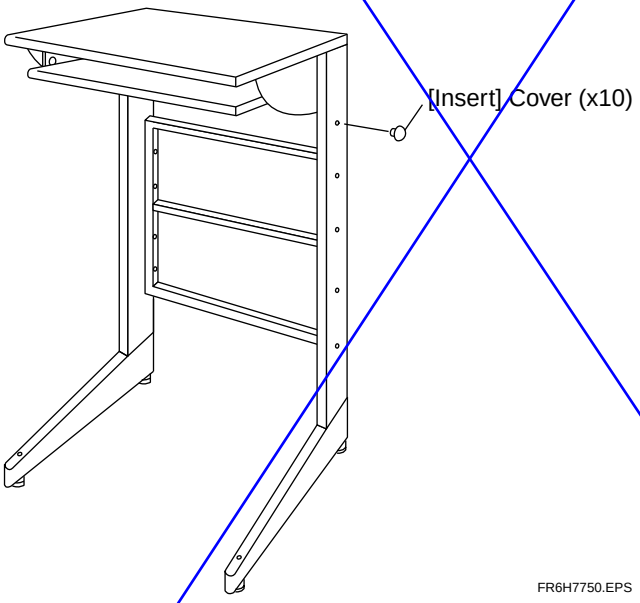
(6) Attach the covers.



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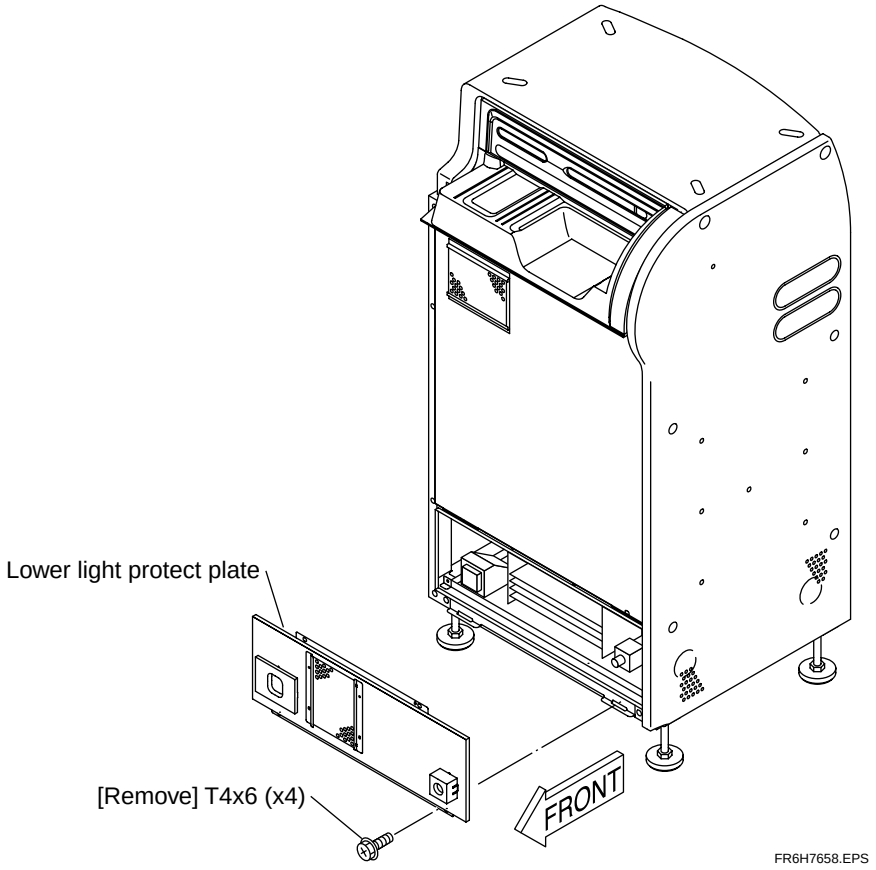
6. Setting the CPU12A Board

The DIP switches on the CPU12A board should be set only when the cassette type is to be changed or when the barcode reader availability setting is to be changed.

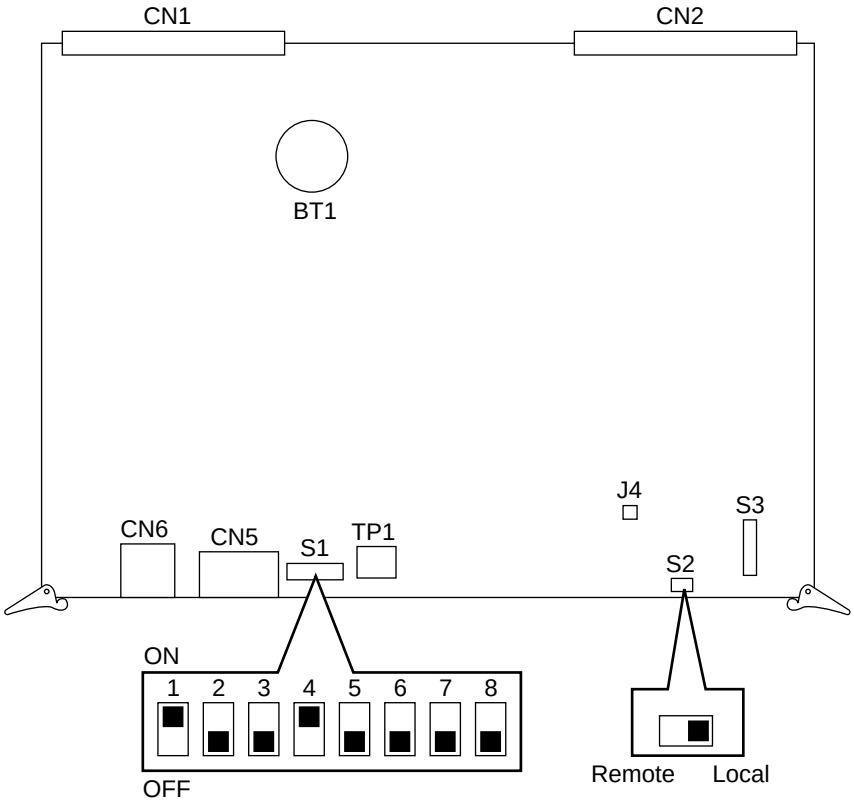
CAUTION

Before handling the board, wear the wristband. Inch cassettes require a HW change.

(1) Remove the lower light protect plate.



(2) Set the DIP switches as appropriate.



S1 settings

bit	Description	ON	OFF	Default (factory preset)
1	Service terminal connection enable/disable	–	–	ON (fixed)
2	For design analysis	–	–	OFF (fixed)
3	Cassette type selection	Metric	INCH	OFF (It varies depending on the specifications prior to shipment.)
4	Barcode reader availability selection	With BCR	Without BCR	ON
5	For design analysis	–	–	OFF (fixed)
6	Not used			OFF (fixed)
7	Not used			OFF (fixed)
8	For design analysis	–	–	OFF (fixed)

S2 settings

Description	Remote	Local	Default
Interlink with CL	–	–	Local (fixed)

FR6H7659.EPS

(3) Attach the lower light protect plate.

7. Connecting the Cables

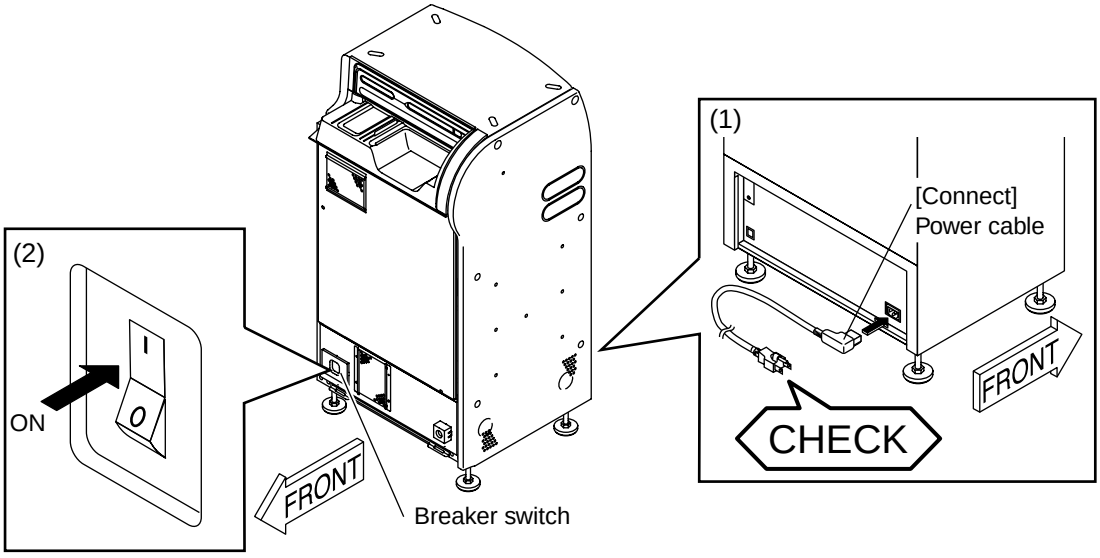
7.1 Connecting the Power Cable and Checking Resistance Value

WARNING

Before measuring the resistance value, make sure that the power plug is unplugged from the outlet.

(1) Connect the power cable.

(2) Place the breaker switch in the ON position.



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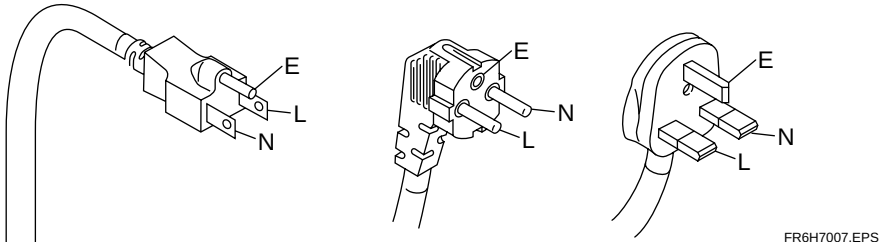
(3) Measure the resistance value.

(Reference value)

Terminal	L – N	L – E	N – E
Resistance value	100 k Ω –	∞	∞

<For use in Japan and the US> <For use in Europe> <For use in the UK, etc.>



FR6H7007.EPS

(4) Place the breaker switch in the OFF position.

7.2 Connecting the Interface Cable

CAUTION

A telephone cable should not be plugged into the I/F cable connector.
The type of cable compatible with this machine is an IEC950/UL1950-listed cable only.

◆ *NOTES* ◆

- *Either the UTP type or STP type of the I/F cable may be connected to the CR-IR346RU. However, even when the I/F cable is of shielded type (STP type), a ferrite bead should be attached to it.*
- *Make sure that 50 to 80 mm of the cable protrudes from the ferrite bead (on the side you will install into the RU).*

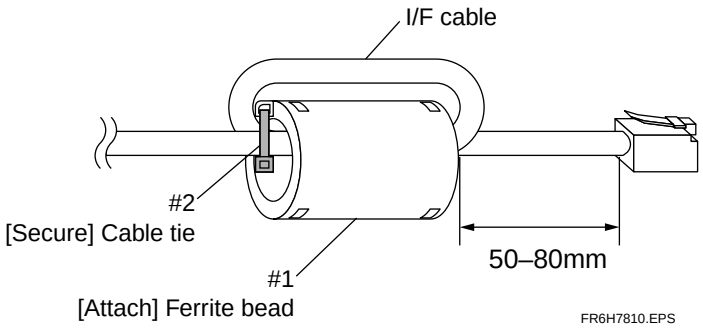
7.2.1 Direct Connection of the CL/RU

◆ ***NOTE*** ◆

For the I/F cable used for direct connection, a cross cable should be used.

(1) Attach a ferrite bead to the I/F cable.

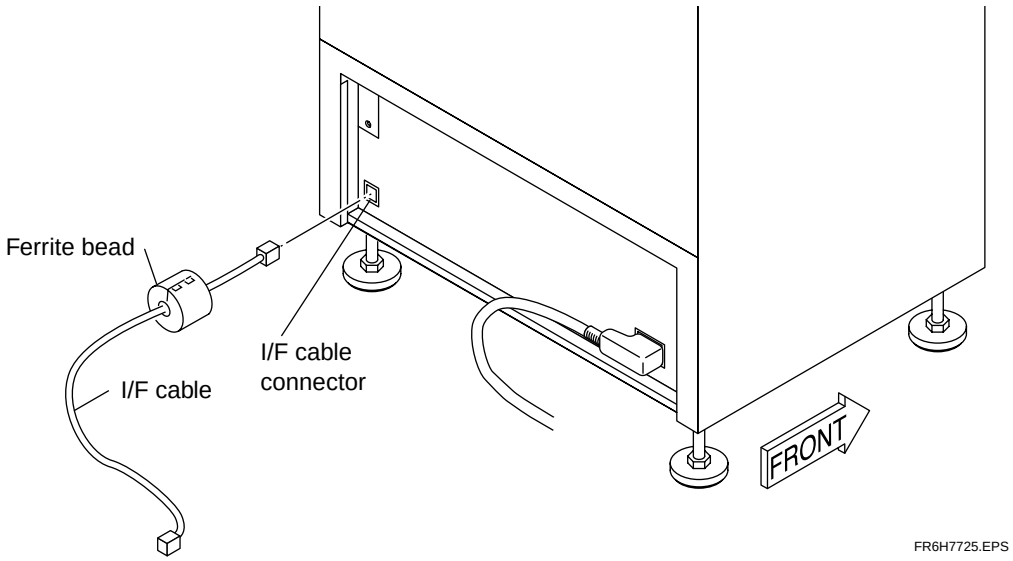
To do so, wrap the cable once completely around the ferrite bead and tie the cable and its loop together.



(2) Connect the I/F cable to the I/F cable connector of the RU.

◇ ***REFERENCE*** ◇

The I/F cable should be connected with its ferrite bead end on the RU side.

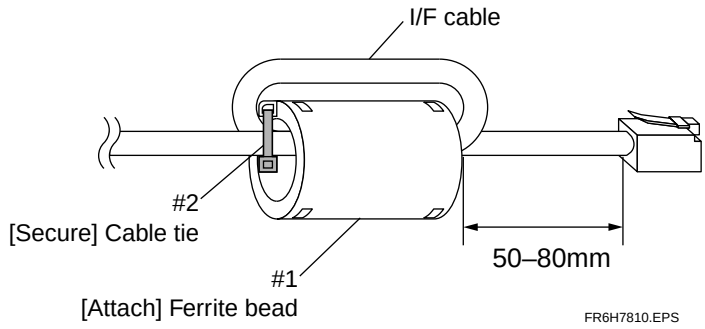


7.2.2 Network Connection

◆ ***NOTE*** ◆

For the I/F cable used for network connection, a straight cable should be used.

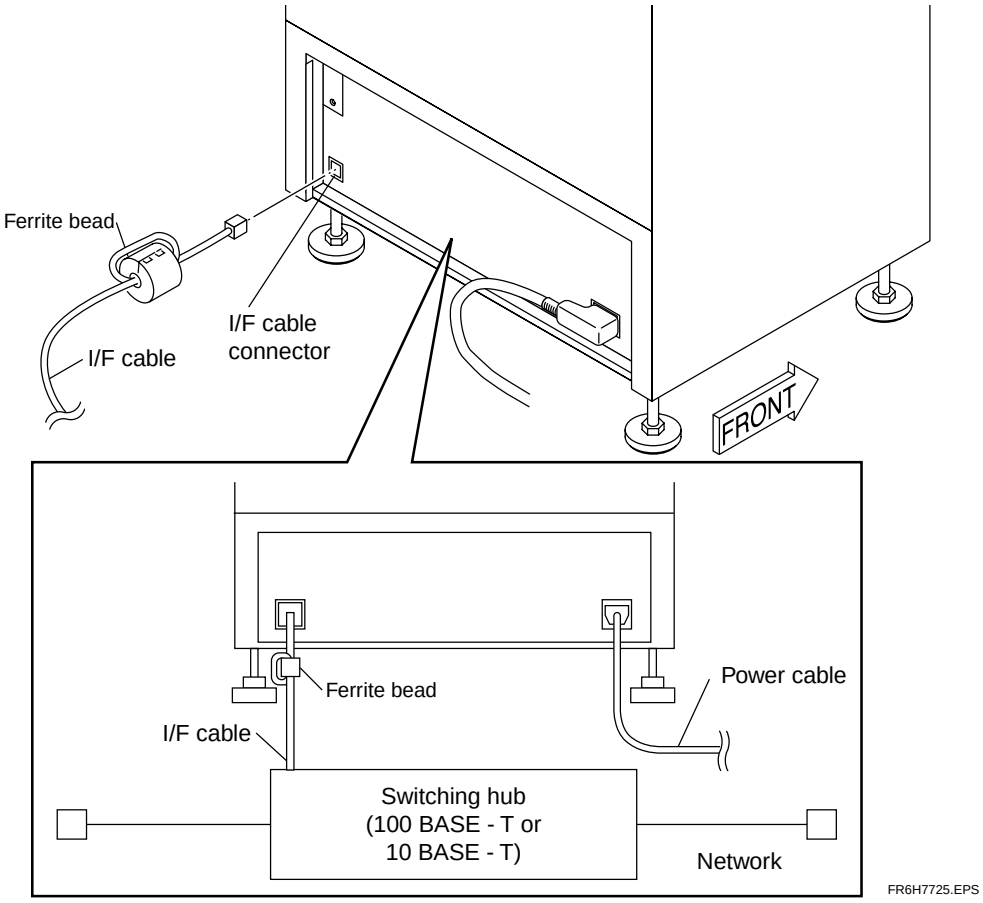
(1) Attach a ferrite bead to the I/F cable.
To do so, tie the cable and its loop together.



(2) Connect the I/F cable to the I/F cable connector of the RU.

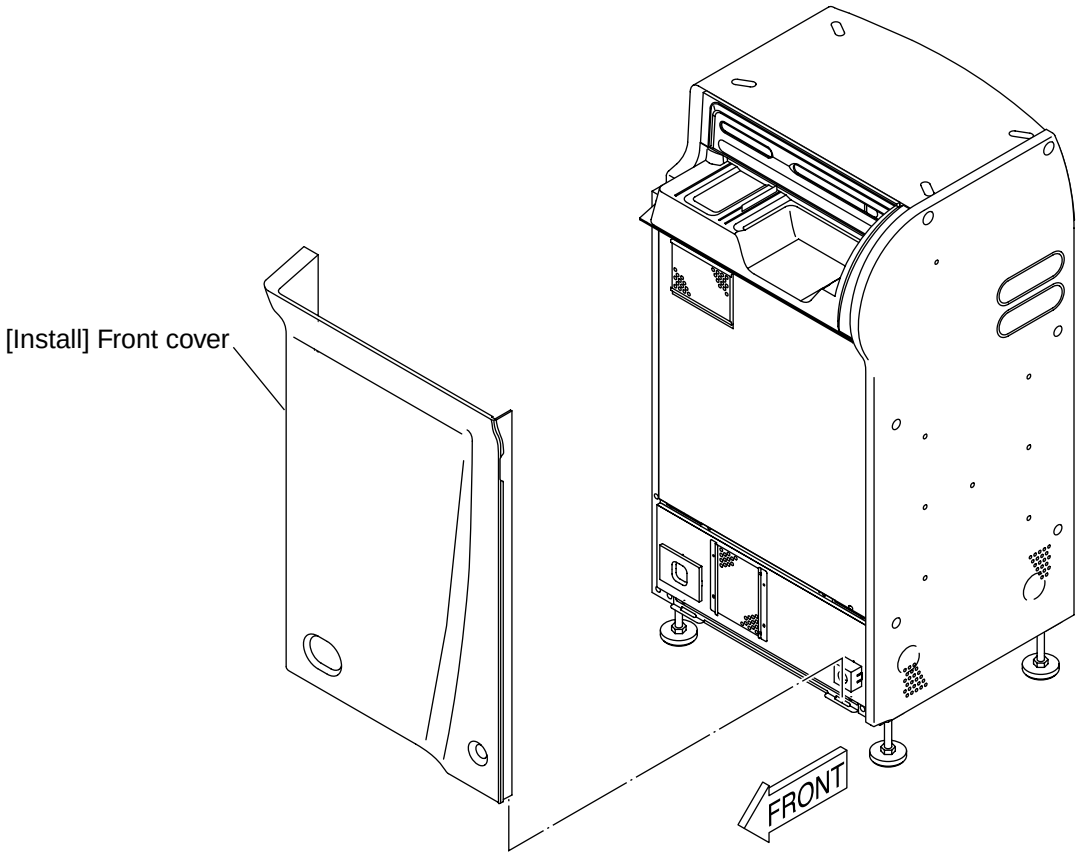
◇ ***REFERENCE*** ◇

The I/F cable should be connected with its ferrite bead end on the RU side.



8. Installing the Cover

(1) Install the front cover.



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9. CL Installation Procedures

(1) Perform the installation procedures of the other system components.

10. Final Placement

The following types of installation methods are available for installing the machine. Consult with the user for his request, and then install the machine according to one of the following methods.

- Securing the machine with the adjustable feet.
- Securing the machine with the retainers.
- Securing the table and machine together.
- Securing the machine with the retainers and table.

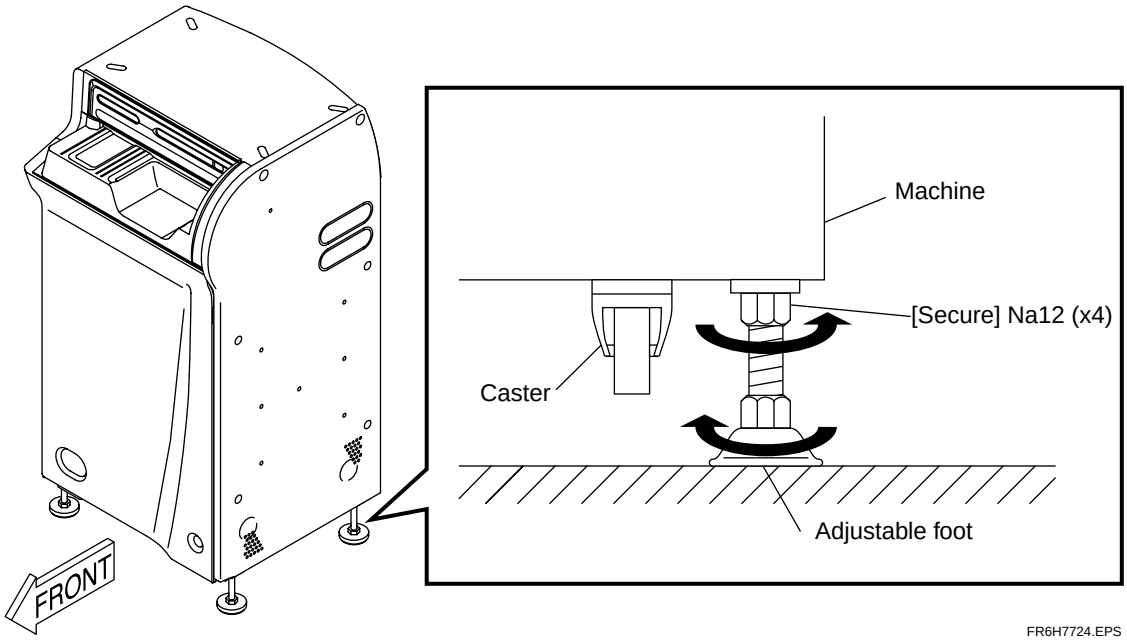
10.1 Securing the Machine with the Adjustable Feet

(1) Install the four adjustable feet down onto the floor.

◆ ***NOTES*** ◆

When securing the adjustable feet, pay attention to the following points.
• The four adjustable feet should be evenly loaded.
However, if there is too little space on the right and left sides in the machine installation place to secure the adjustable feet on the rear side, the two adjustable feet on the front side should be secured in place. In this case, the two adjustable feet and two casters should be evenly loaded.
• When the adjustable feet are secured, the casters should be detached from the floor.

(2) Secure the adjustable feet.



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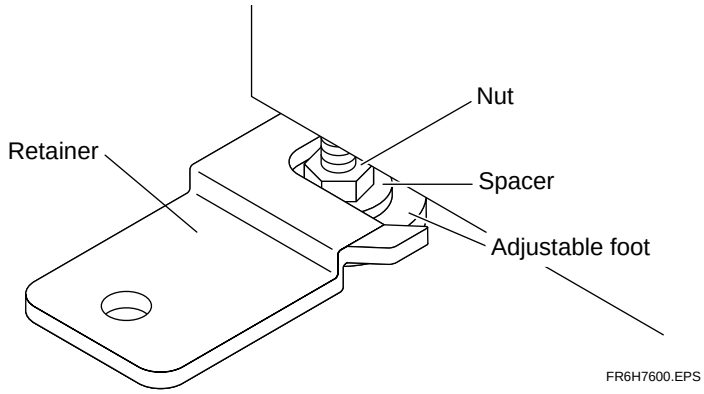
10.2 Securing the Machine with the Retainers

◆ ***NOTE*** ◆

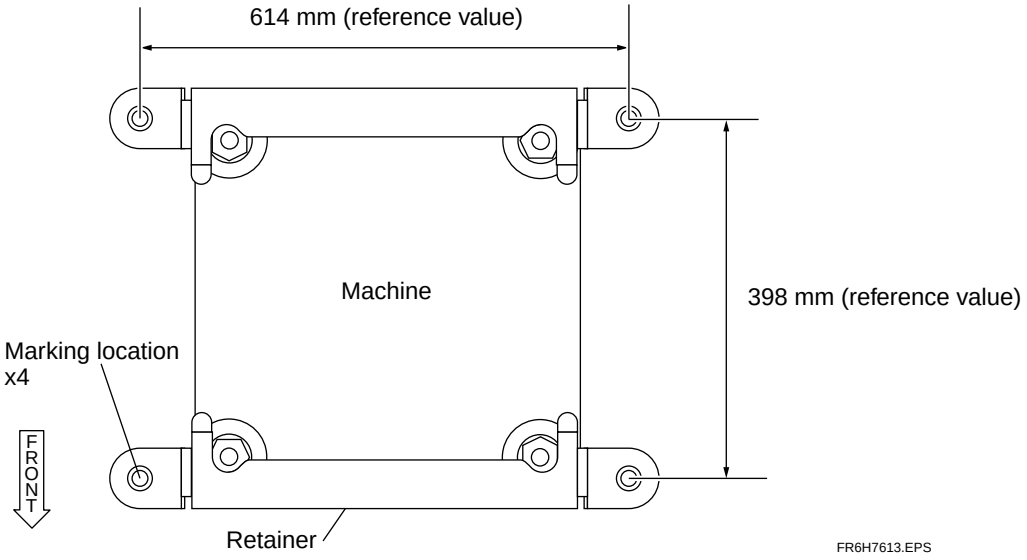
Before drilling holes for embedding the anchor nuts, wear protective goggles.

◇ ***REFERENCE*** ◇

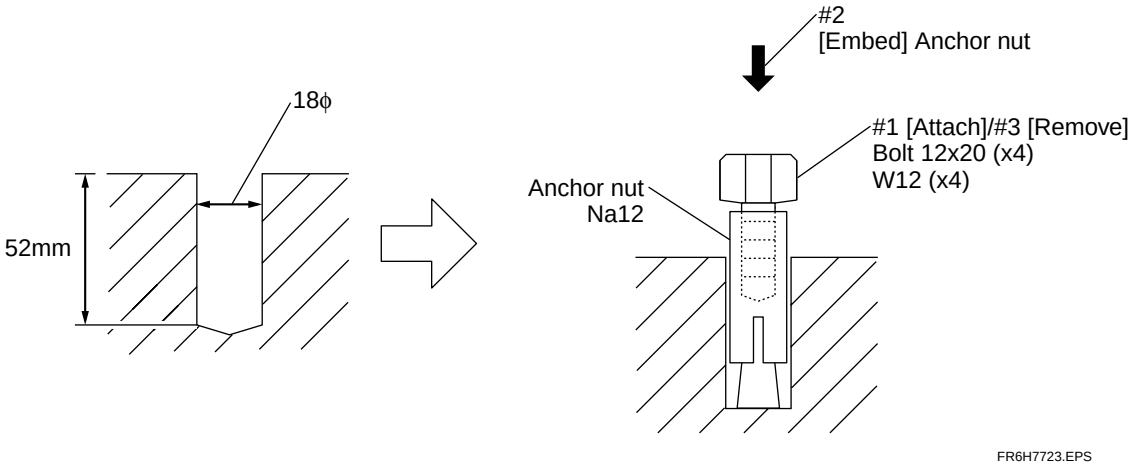
When determining the locations for embedding the anchor nuts, temporarily install the machine and retainers in place, and then mark the locations.
At that time, adjust the height of the adjustable foot so that the positional relationship between the retainer and the adjustable foot nut and spacer is as shown below.



(1) Determine the locations for embedding the anchor nuts.



(2) Drill holes for embedding the anchor nuts and then embed the anchor nuts.

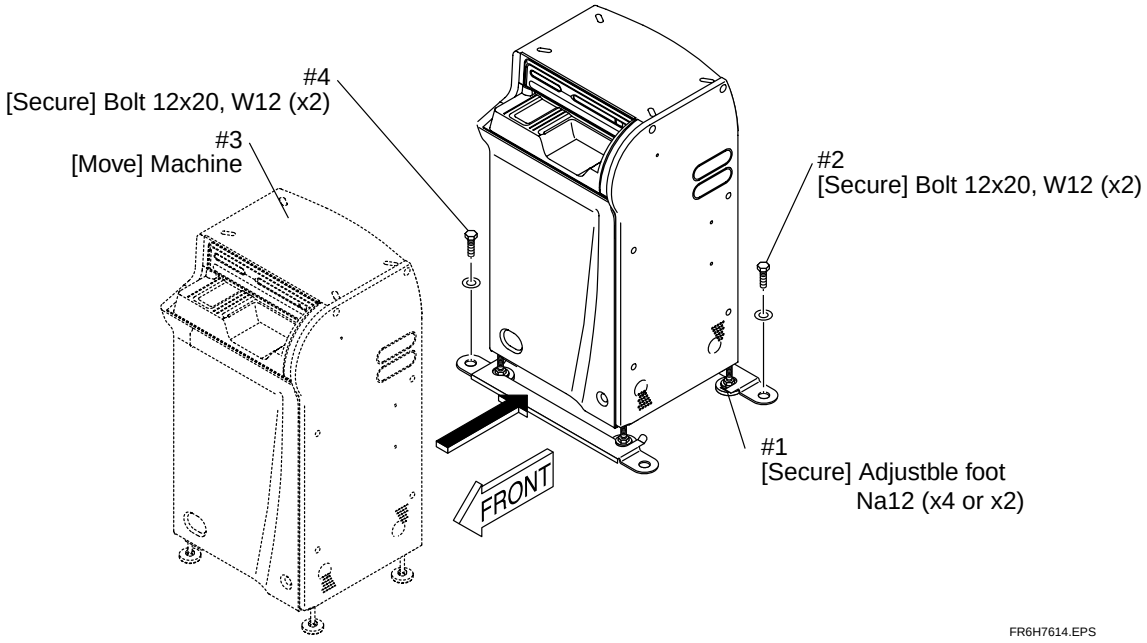


(3) Secure the machine in place.

◆ ***NOTES*** ◆

When securing the adjustable feet, pay attention to the following points.

- *The four adjustable feet should be evenly loaded.*
  However, if there is too little space on the right and left sides in the machine installation place to secure the adjustable feet on the rear side, the two adjustable feet on the front side should be secured in place. In this case, the two adjustable feet and two casters should be evenly loaded.
- *When the adjustable feet are secured, the casters should be detached from the floor.*

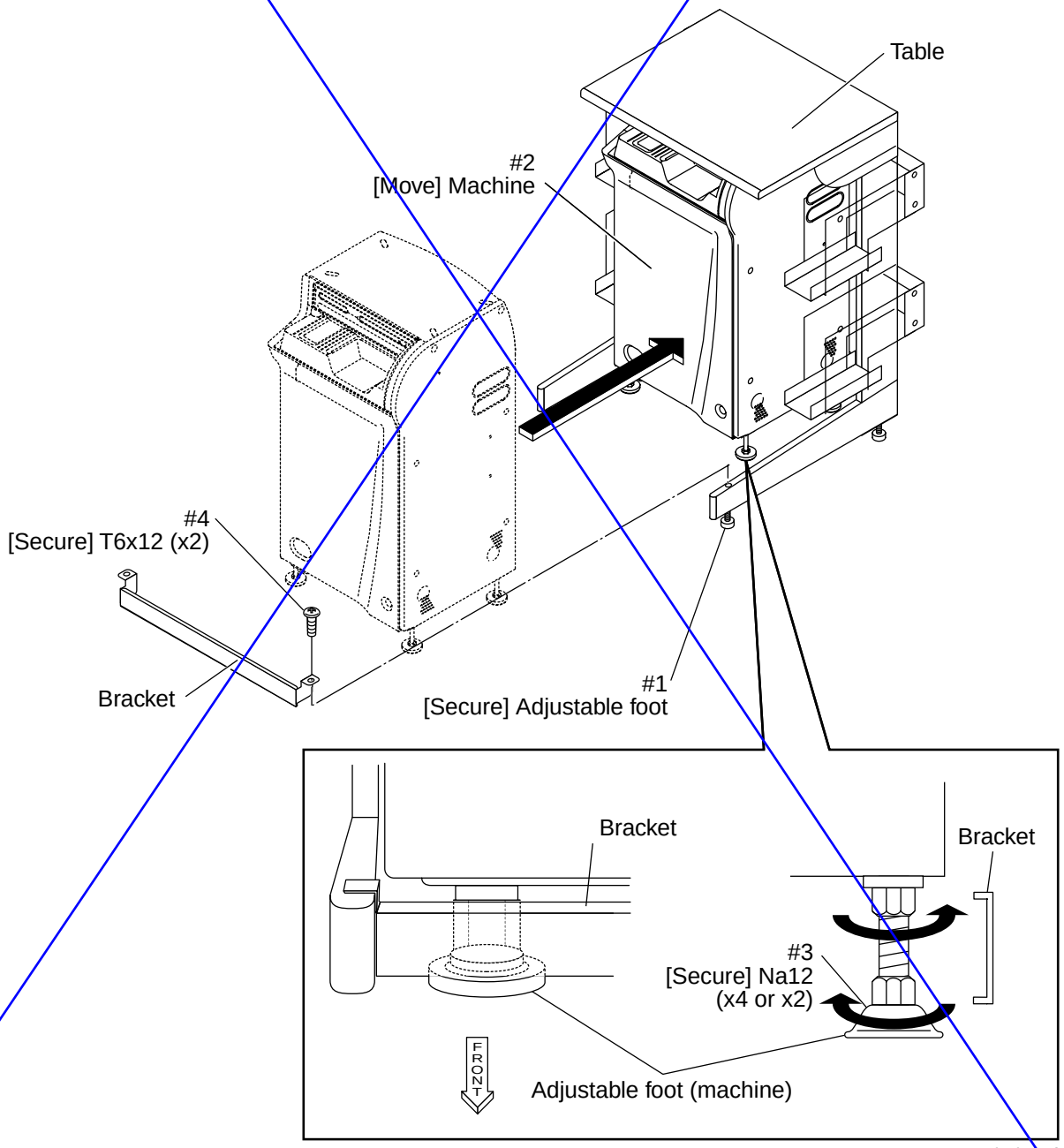


10.3 Securing the Table and Machine Together

◆ ***NOTES*** ◆

- *The four adjustable feet should be evenly loaded. However, if there is too little space on the right and left sides in the machine installation place to secure the adjustable feet on the rear side, the two adjustable feet on the front side should be secured in place. In this case, the two adjustable feet and two casters should be evenly loaded.*
- *When the adjustable feet are secured, the casters should be detached from the floor.*
- *After securing the bracket, make sure that the bracket does not interfere with the machine. If they interfere with each other, adjust the position of the machine as appropriate.*

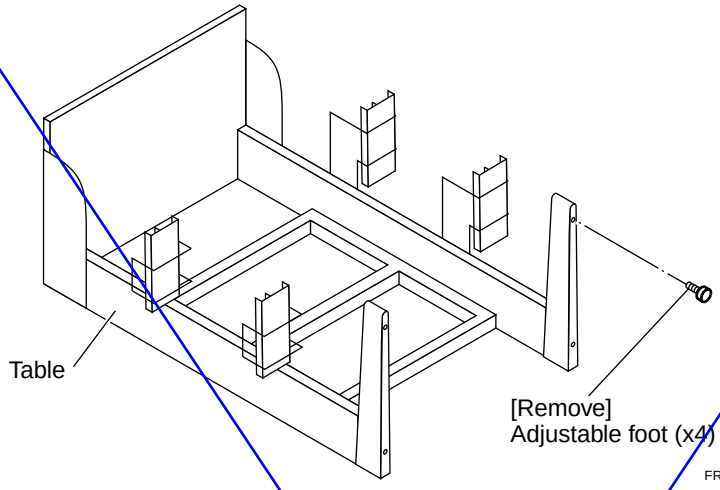
(1) Secure the machine to the table.



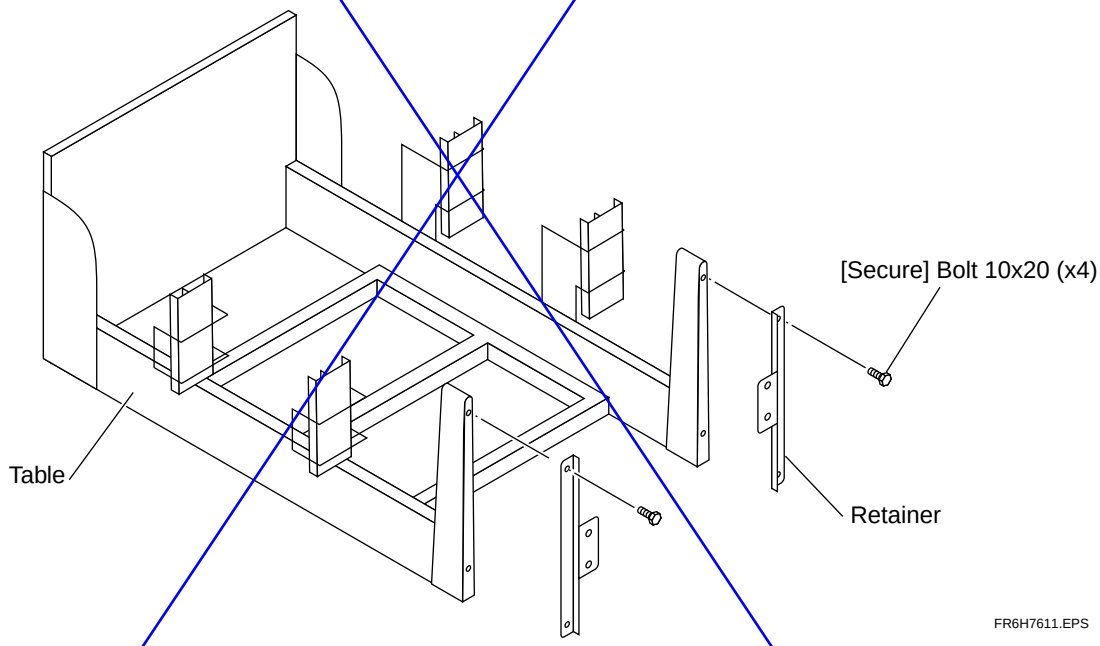
10.4 Securing the Machine with the Retainers and Table

◇ ***REFERENCE*** ◇

The adjustable feet attached on the table should be removed in advance.



(1) Attach the retainers to the table.



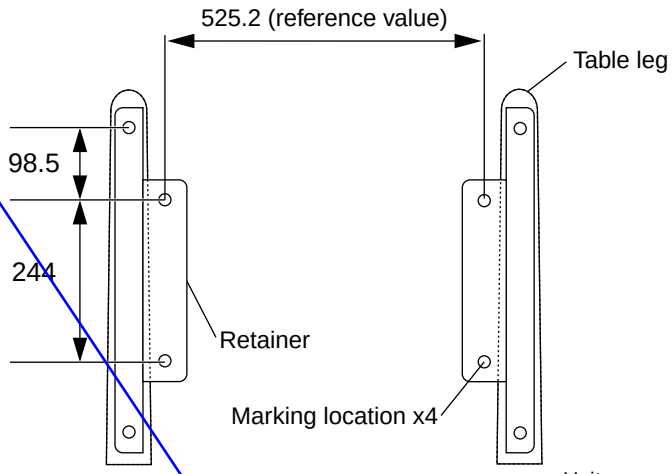
◆ ***NOTE*** ◆

Before drilling holes for embedding the anchor nuts, wear protective goggles.

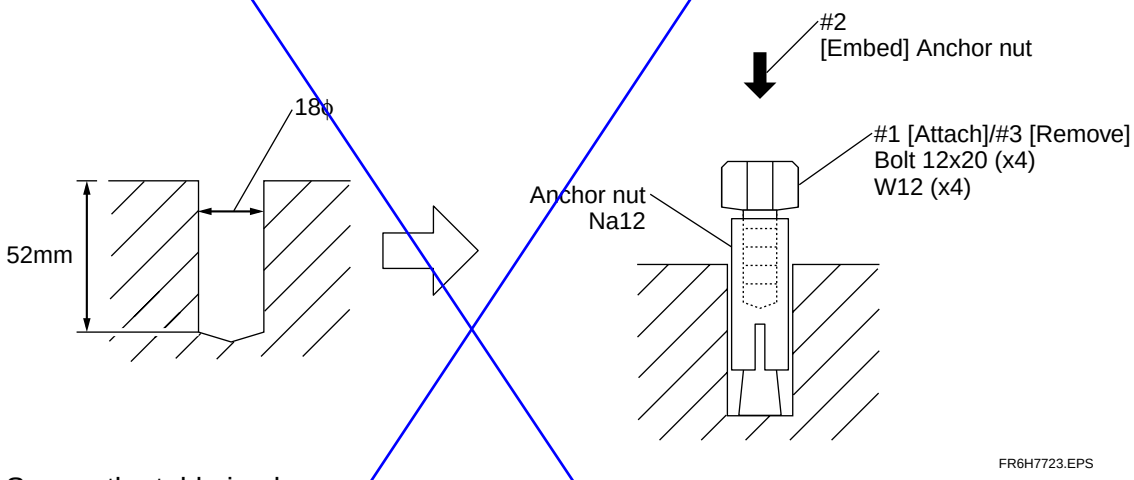
◇ ***REFERENCE*** ◇

When determining the locations for embedding the anchor nuts, perform temporary installation with the retainers attached to the table, and then mark the locations.

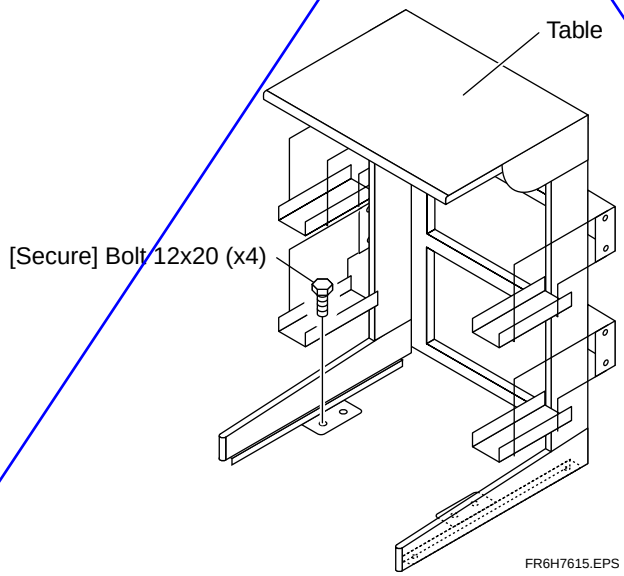
(2) Determine the locations for embedding the anchor nuts.



(3) Drill holes for embedding the anchor nuts, and then embed the anchor nuts.



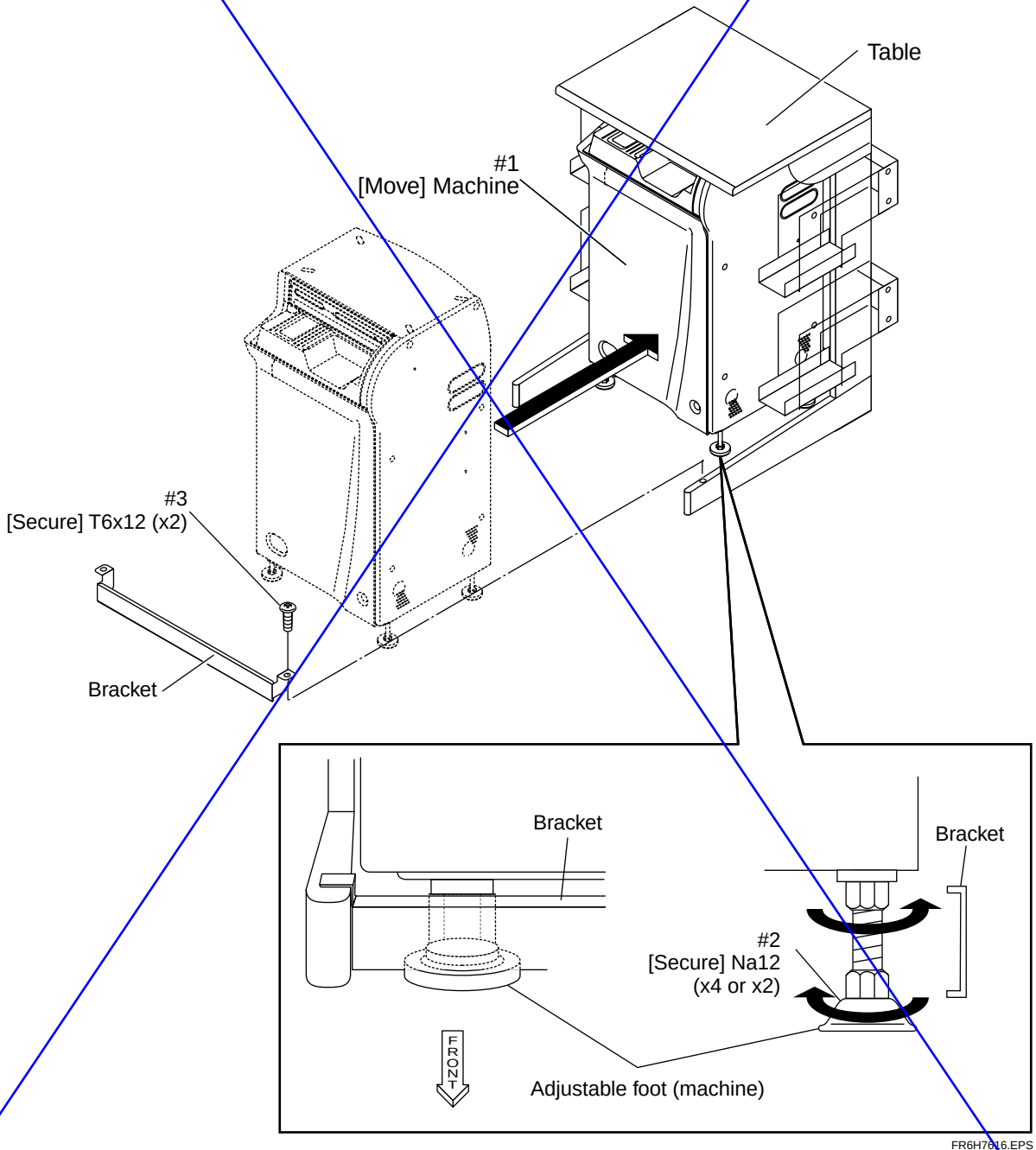
(4) Secure the table in place.



◆ ***NOTES*** ◆

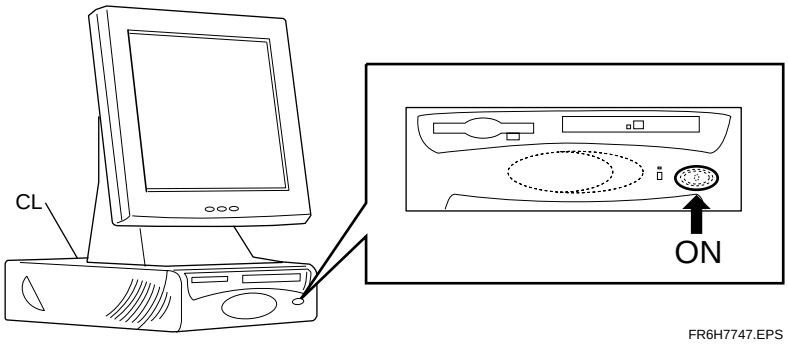
- *The four adjustable feet should be evenly loaded. However, if there is too little space on the right and left sides in the machine installation place to secure the adjustable feet on the rear side, the two adjustable feet on the front side should be secured in place. In this case, the two adjustable feet and two casters should be evenly loaded.*
- *When the adjustable feet are secured, the casters should be detached from the floor.*
- *After securing the bracket, make sure that the bracket does not interfere with the machine. If they interfere with each other, adjust the position of the machine as appropriate.*

(5) Secure the machine to the table.



11. Powering ON the CL/RU

(1) Power ON either the Console or the Preview Unit, User Terminal and Easy Vision.



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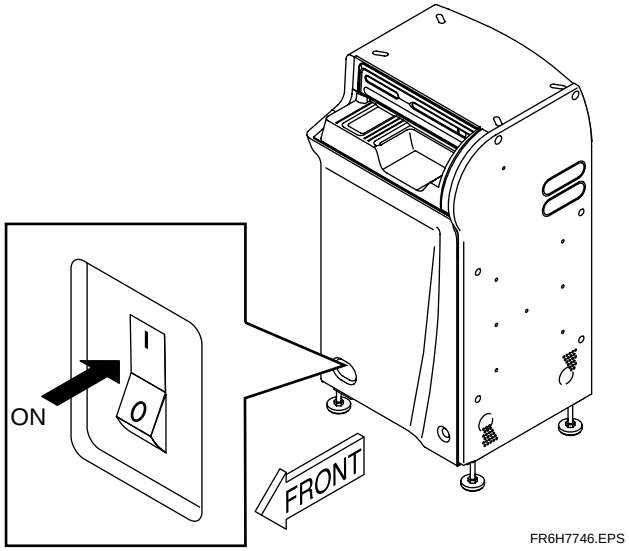
(2) Power ON the RU.



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12. Image/Conveyance Checks

In this section, the following checks are made as last-time verification for final placement.

- Conveyance checks
- Image checks

■ Preparation Procedures

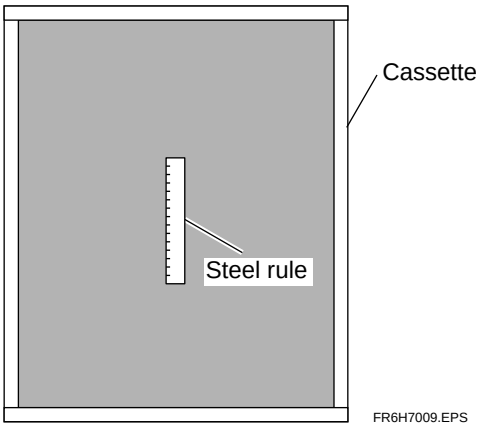
◆ *NOTES* ◆

• For the IP used for image/conveyance checks, an IP of the maximum size used in the hospital should be employed.
• Make sure that the IP to be used does not contain any important image data exposed.

(1) Subject the IP to be used to primary erasure.

☞ "RU Instruction Manual/2.4 When Only Image Erasure is to be Performed (Primary Erasure)"

(2) Place a steel rule (150mm) on the cassette and expose it at 1 mR.



◇ *REFERENCE* ◇

If the IP cannot be exposed at 1 mR, it should be exposed at a level equivalent to 1 mR, with reference to the following exposure conditions.
Note, however, that those conditions are for standard IP setup reference.

Distance:	*1.8 m*
Voltage:	*80 kV*
Amperage:	*50 mA*
Time:	*0.013 sec*

12.1 Conveyance Checks

◆ *NOTE* ◆

The trimming function should be disabled.
☞ *"CL Service Manual/Function-specific Reference/2. Setup Necessary When Editing the Film Annotation Character Format"*

(1) Output the image exposed at 1 mR.

At this time, make sure that the IP conveyance mechanism of the RU is operating normally.

☞ "RU Instruction Manual/2. Operating Procedures"

◆ *CHECKS* ◆

- *There should be no offensive noise or odor.*
- *There should be no IP jam.*
- *The IP should be free from any scratch or damage after reading.*
  If anything abnormal is found, see [Troubleshooting Volume].

12.2 Image Checks

(1) Verify that there is no unusual nonuniformity found on the output film and on the image displayed on the image monitor.

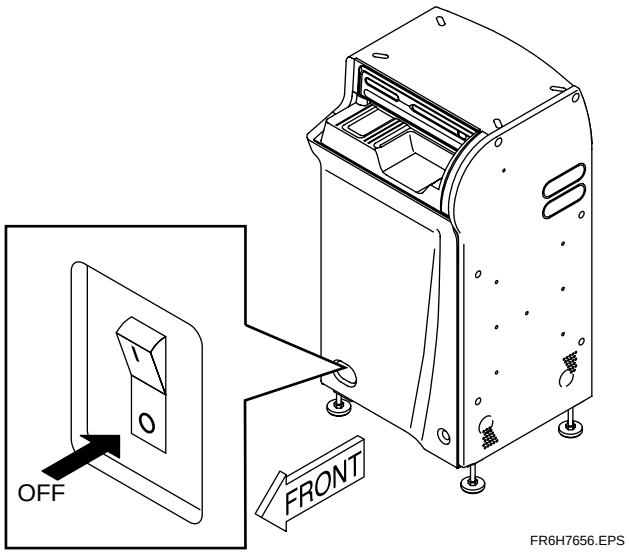
◆ *CHECK* ◆

There should be no unusual nonuniformity.
If anything abnormal is found, see [Troubleshooting Volume].

13. Powering OFF the CL/RU

(1) Shut down the system of the CL.

(2) Power OFF the RU.



14. Cleaning the CL/RU

(1) Clean the monitor and covers of the CL with a dry cloth.

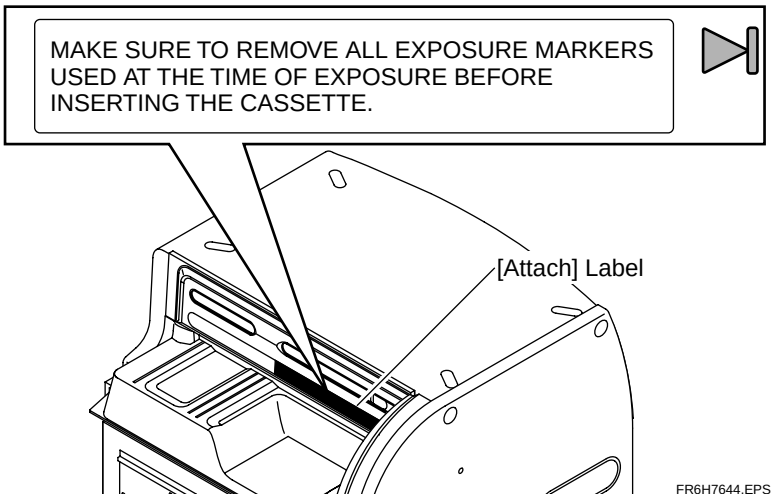
(2) Clean the covers of the RU with a moistened cloth.

15. Attaching the Cassette Handling Precaution Label

◆ *NOTE* ◆

Before attaching the cassette handling precaution label, consult with the user regarding the following points.
• Check to see whether the label is to be attached or not.
• Location where the label is to be attached.

(1) Attach the cassette handling precaution label above the cassette size indication.


MAKE SURE TO REMOVE ALL EXPOSURE MARKERS USED AT THE TIME OF EXPOSURE BEFORE INSERTING THE CASSETTE.
[Attach] Label
FR6H7644.EPS

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